Part I: Project Information

Name of Parent Program
Food Systems, Land Use and Restoration (FOLUR) Impact Program

GEF ID
10750

Project Type
FSP

Type of Trust Fund
GET

CBIT/NGI
CBIT **No**
NGI **No**

Project Title
Integrated Landscape Management for a zero-deforestation coffee and rice value chains in the Central South and Eastern coast of Madagascar

Countries
Madagascar

Agency(ies)
FAO

Other Executing Partner(s)
Ministry of Environment and Sustainable Development (MEDD); Ministry of Agriculture and Livestock (MINAE)

Executing Partner Type
Government

GEF Focal Area
Multi Focal Area

Sector
AFOLU

Taxonomy
Tropical Rain Forests, Biomes, Biodiversity, Focal Areas, Stakeholders, Private Sector, SMEs, Individuals/Entrepreneurs, Financial intermediaries and market facilitators, Communications, Awareness Raising, Civil Society, Community Based Organization, Academia, Non-Governmental Organization, Beneficiaries, Local Communities, Gender Equality, Gender Mainstreaming, Sex-disaggregated indicators, Gender results areas, Capacity Development, Knowledge Generation and Exchange, Participation and leadership, Integrated Programs, Food Systems, Land Use and Restoration, Smallholder Farming, Comprehensive Land Use Planning, Sustainable Food Systems, Landscape Restoration, Food Value Chains, Integrated Landscapes

Rio Markers
Climate Change Mitigation
Significant Objective 1

Climate Change Adaptation
Significant Objective 1

Biodiversity
Significant Objective 1

Land Degradation
Significant Objective 1

Submission Date
3/31/2022

Expected Implementation Start
1/9/2023

Expected Completion Date
1/8/2028

Duration
60In Months

Agency Fee($)
888,671.00

A. FOCAL/NON-FOCAL AREA ELEMENTS

Objectives/Programs	Focal Area Outcomes	Trust Fund	GEF Amount($)	Co-Fin Amount($)
IP FOLU	Transformation of food systems through sustainable production, reduced deforestation from commodity supply chains, and increased landscape restoration	GET	9,874,117.00	28,884,587.00
		Total Project Cost($)	**9,874,117.00**	**28,884,587.00**

B. Project description summary

Project Objective

Promote sustainable food systems that are deforestation-free and support the conservation of biodiversity and the provision of ecosystem services, with a focus on rice and coffee in landscapes of the Central-South and Eastern coast of Madagascar

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing ($)	Confirmed Co-Financing($)

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing ($)	Confirmed Co-Financing($)
1. Development of integrated landscape management systems	Investment	**1.1** Coffee-forest landscapes managed sustainably through responsible tenure governance, ecosystem services restoration, and livelihoods? diversification. Indicators (and targets): (i) # of ha of PIAs with maps and implementing plans (86,274 ha). Contributing to GEF Core Indicator 4.	**1.1.1** Technical capacities of national and local stakeholders to plan, implement and update integrated landscape plans enabling biodiversity conservation and the provision of ecosystem services, are enhanced. **1.1.2** Four Integrated Landscape Management Plan (ILMPs) produced and validated. **1.1.3** Priority intervention areas (PIAs) identified in each landscape based on ecological, social, and economic opportunities, where interventions under Component 2 and 3 will be implemented	GET	1,118,770.00	3,600,000.00
		1.2 Zero-deforestation, biodiversity and social inclusion priorities are mainstreamed into policies and/or strategies relevant to the coffee and rice sectors. Indicators (and targets): (i) Blue-print for policy improvement produced and	**1.2.1** One blueprint for policy mainstreaming and cross-sectoral integration is produced and validated, with a focus on zero-deforestation and biodiversity conservation in the agro-forestry sector. **1.2.2** At least eight normative bodies (decrees, laws, regulations) are produced/amended/improved to mainstream zero-deforestation and biodiversity conservation priorities, with special focus on the rice and coffee sectors. **1.2.3** Coherent and harmonized by-laws or			

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing ($)	Confirmed Co-Financing($)
2. Promotion and implementation of sustainable food production practices and responsible value chains	Investment	**2.1** Coffee and rice VCs improved in terms of efficiency, sustainability and marketing in the priority intervention areas of the four target landscapes. Indicators (and targets): (i) # of ha of coffee plantations under improved management and under formal or informal certification (5,000 ha of agro-forestry coffee plantations) - GEF Core Indicator 4.2 (ii) # of ha of degraded rice farmland and agro-forestry systems under improved agricultural practices and sustainable management (20,000 ha of rice/legume under Conservation Agriculture	**2.1.1** Innovative production model for a sustainable, fair, and professionalized coffee VC from producer to buyer is tested in the target landscapes, including capacity building on sustainability in coffee production. **2.1.2** Market diversification and access for sustainable coffee value chains in the target landscapes enhanced through a public-private-partnership (PPP) model around environmental and ethical certification standards. **2.1.3** A climate-smart and biodiversity-respectful, diversified rice/legume production system is adopted by capacitated farmers in the buffer zones of coffee agroforestry and protected landscape areas.	GET	5,522,410.00	10,209,641.00

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing ($)	Confirmed Co-Financing($)
3.Conservation and restoration of natural habitats	Investment	**3.1** High-ecological value forests and agro-forestry systems conserved, restored and sustainably managed in the priority intervention areas of the four target landscapes Indicators (and targets): (i) # of ha of natural forests and agro-forestry systems under restoration / rehabilitation and improved management (10,000 ha, from which 5,000 ha of restored forests and 5,000 Ha of restored agro-forestry systems) /GEF Core Indicators 31 and 3.2 (ii) # of he under improved management to improve BD (3,274 ha) (iii) Metric tons of CO2e of GHG Emissions	**3.1.1** Forest restoration, adaptive management and value chain development implemented in the four target landscapes for an enhanced provision of biodiversity and ecosystem services and income generation. **3.1.2** Conservation of endemic coffee agrobiodiversity in situ and ex situ (garden coffee systems) enhanced **3.1.3** Long-term financing of the landscape restoration and sustainable coffee agroforestry production piloted through innovative mechanisms	GET	1,900,461.00	4,929,700.00

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing ($)	Confirmed Co-Financing($)
4. Project Coordination, Collaboration, Communication and M&E	Technical Assistance	**4.1** Successful execution of the project in an effective manner, with knowledge shared through the FOLUR IP Global Knowledge to Action (K2A)Platform Indicators (and targets): (i) # of people reached from project activities (80,000)/GEF CI 11 (ii) # of project counterparts participating in the FOLUR Global K2A Platform and other relevant global platforms (40 attending at least 20 FOLUR IP and other global relevant fora (AFR100, IACO: Inter African Coffee Organization, GLF: Global Landscape Forum)	**4.1.1** Knowledge products, tools and approaches developed and shared at the national level and through the Global K2A of FOLUR and other relevant platforms **4.1.2** Operational project M&E system in place	GET	862,280.00	3,602,850.00

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing ($)	Confirmed Co-Financing($)
				Sub Total ($)	**9,403,921.00**	**22,342,191.00**
Project Management Cost (PMC)						
				GET	470,196.00	6,542,396.00
				Sub Total($)	**470,196.00**	**6,542,396.00**
				Total Project Cost($)	**9,874,117.00**	**28,884,587.00**

Please provide justification

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

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Investment Mobilized	Amount($)
Recipient Country Government	Ministry of Environment and Sustainable Development (MEDD)	In-kind	Recurrent expenditures	6,148,485.00
Recipient Country Government	Ministry of Agriculture and Livestock (MINAE)	In-kind	Recurrent expenditures	393,911.00
Recipient Country Government	Madagascar National Parks (MNP)	In-kind	Recurrent expenditures	1,526,685.00
Private Sector	Foundation for the Protected Areas and Biodiversity of Madagascar (FAPBM)	Grant	Investment mobilized	4,479,800.00
Donor Agency	Japan International Cooperation Agency (JICA)	Grant	Investment mobilized	1,200,000.00
GEF Agency	World Bank	Grant	Investment mobilized	10,500,000.00
Private Sector	Missouri Botanical Garden (MBG)	In-kind	Recurrent expenditures	1,272,000.00
GEF Agency	FAO-Madagascar	Grant	Investment mobilized	847,450.00
GEF Agency	FAO-FLRM	Grant	Investment mobilized	500,000.00
Donor Agency	Deutsche Gesellschaft f?r Internationale Zusammenarbeit (GIZ)	Grant	Investment mobilized	2,000,000.00
Recipient Country Government	Ministry of Agriculture and Livestock (MINAE)	Public Investment	Investment mobilized	16,256.00

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Investment Mobilized	Amount($)
			Total Co-Financing($)	**28,884,587.00**

Describe how any "Investment Mobilized" was identified

Based on PPG consultations with project teams and insitutional partners, the following projects were identified as investment mobilized: - JICA: Projet d'Appui pour l'Am?lioration de la Productivit? et de l'Industrialisation du Secteur Riz (PAPRIZ) (2020-2025) - GIZ: Forests4Future (2020-2026) - World Bank: (i) Economic Transformation for Inclusive Growth Project (FSRP, 2021-2027); (ii) the Food Security Regional Program (PIC 3.1; 2022-2027) and; (iii) Rural Development and Rice Plus projects (RD-Rice+: 2022-2027) - FAO: (i) Mise en place d`un r?seau de syst?mes d'informations sur l'agriculture et la s?curit? alimentaire et nutritionnelle dans les ?les de l'Oc?an Indien (Comores, Madagascar, Maurice, Seychelles) (2021-2025); (ii) Large Scale Forest and Landscape Restoration (FAO-FLRM): 2022-2024; (iii) Implementation of the Forest and Landscape Restoration Mechanism (FAO-FLRM): 2022-2025 - FAPBM: Missouri Botanical Gardens allocations (2022-2027) in support to: (i) the Massif d'Ibity project; (ii) Parc Nation de Ranomafana and the Manombo Special Reserve project.

D. 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($)
FAO	GET	Madagascar	Biodiversity	BD STAR Allocation	6,581,823	592,364	7,174,187.00
FAO	GET	Madagascar	Climate Change	CC STAR Allocation	1,019	92	1,111.00
FAO	GET	Madagascar	Multi Focal Area	IP FOLU Set-Aside	3,291,275	296,215	3,587,490.00
			Total Grant Resources($)		**9,874,117.00**	**888,671.00**	**10,762,788.00**

E. Non Grant Instrument

NON-GRANT INSTRUMENT at CEO Endorsement

Includes Non grant instruments? **No**

Includes reflow to GEF? **No**

F. Project Preparation Grant (PPG)

PPG Required **true**

PPG Amount ($)

200,000

PPG Agency Fee ($)

18,000

Agency	Trust Fund	Country	Focal Area	Programming of Funds	Amount($)	Fee($)	Total($)
FAO	GET	Madagascar	Climate Change	CC STAR Allocation	31	2	**33.00**
FAO	GET	Madagascar	Biodiversity	BD STAR Allocation	133,180	11,987	**145,167.00**
FAO	GET	Madagascar	Multi Focal Area	IP FOLU Set-Aside	66,789	6,011	**72,800.00**
				Total Project Costs($)	**200,000.00**	**18,000.00**	**218,000.00**

Core Indicators

Indicator 3 Area of land and ecosystems under restoration

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
0.00	10000.00	0.00	0.00

Indicator 3.1 Area of degraded agricultural lands under restoration

Disaggregation Type	Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
		5,000.00		

Indicator 3.2 Area of forest and forest land under restoration

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
	5,000.00		

Indicator 3.3 Area of natural grass and woodland under restoration

Disaggregation Type	Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)

Indicator 3.4 Area of wetlands (including estuaries, mangroves) under restoration

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)
0.00	86274.00	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)
	3,274.00		

Indicator 4.2 Area of landscapes under third-party certification incorporating biodiversity considerations

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
	5,000.00		

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)
	78,000.00		

Indicator 4.4 Area of High Conservation Value or other forest loss avoided

Disaggregation Type	Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)

Indicator 4.5 Terrestrial OECMs supported

Name of the OECMs	WDPA-ID	Total Ha (Expected at PIF)	Total Ha (Expected at CEO Endorsement)	Total Ha (Achieved at MTR)	Total Ha (Achieved at TE)

Documents (Please upload document(s) that justifies the HCVF)

Title	Submitted

Indicator 6 Greenhouse Gas Emissions Mitigated

Total Target Benefit	(At PIF)	(At CEO Endorsement)	(Achieved at MTR)	(Achieved at TE)
Expected metric tons of CO?e (direct)	0	4968459	0	0
Expected metric tons of CO?e (indirect)	0	0	0	0

Indicator 6.1 Carbon Sequestered or Emissions Avoided in the AFOLU (Agriculture, Forestry and Other Land Use) sector

Total Target Benefit	(At PIF)	(At CEO Endorsement)	(Achieved at MTR)	(Achieved at TE)
Expected metric tons of CO?e (direct)		4,968,459		
Expected metric tons of CO?e (indirect)				
Anticipated start year of accounting		2023		
Duration of accounting		20		

Indicator 6.2 Emissions Avoided Outside AFOLU (Agriculture, Forestry and Other Land Use) Sector

Total Target Benefit	(At PIF)	(At CEO Endorsement)	(Achieved at MTR)	(Achieved at TE)
Expected metric tons of CO?e (direct)				
Expected metric tons of CO?e (indirect)				
Anticipated start year of accounting				
Duration of accounting				

Indicator 6.3 Energy Saved (Use this sub-indicator in addition to the sub-indicator 6.2 if applicable)

Total Target Benefit	Energy (MJ) (At PIF)	Energy (MJ) (At CEO Endorsement)	Energy (MJ) (Achieved at MTR)	Energy (MJ) (Achieved at TE)
Target Energy Saved (MJ)				

Indicator 6.4 Increase in Installed Renewable Energy Capacity per Technology (Use this sub-indicator in addition to the sub-indicator 6.2 if applicable)

Technology	Capacity (MW) (Expected at PIF)	Capacity (MW) (Expected at CEO Endorsement)	Capacity (MW) (Achieved at MTR)	Capacity (MW) (Achieved at TE)

Indicator 11 People benefiting from GEF-financed investments

	Number (Expected at PIF)	Number (Expected at CEO Endorsement)	Number (Achieved at MTR)	Number (Achieved at TE)
Female		40,000		
Male		40,000		

	Number (Expected at PIF)	Number (Expected at CEO Endorsement)	Number (Achieved at MTR)	Number (Achieved at TE)
Total	0	80000	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

Part II. Project Justification

1a. Project Description

1. Project Description

(i) Global environmental and/or adaptation problems, root causes and barriers that need to be addressed (systems description)

Located between 20 ?S and 47 ?E in the Indian Ocean, Madagascar lies almost entirely within the tropical region. The country is the world?s fourth largest island covering an area of 592,000 km? and is separated from continental Africa by about 400 km by the Mozambique Channel. The island is characterized by a mountainous-plateau spine (1,500 m average elevation) that run through the island from the north to the south along its length, with the three highest peaks ranging from 2,600 to 2,900 m in altitude. The geographic isolation of Madagascar, together with the variety of climates, landform and geology are responsible for a variety of forest landscapes of extraordinary habitat diversity, including:

? The lowland tropical humid broadleaf forests in the eastern coast, that extend between sea level and 800 m elevation, in areas with warm (annual temperature 12-30?C) and humid climate (2,000 mm up to 6,000 mm annual rainfall). Many of the 52 wild coffee species from the *Mascarocoffea* sub-section occur in this forest bioclimate. It also includes the majority of endemic tree species

? The critically endangered subhumid forests extending over most of the inland highlands, above 600-800 meters, in areas with mild (annual temperature 5.5-37.8?C) and subhumid climate (1,500-3,700 mm). Subhumid forests are currently reduced to highly altered fragmented patches. Six wild coffee species (*Coffea callmanderi, C. darainensis, C. kalobinonensis, C. microdubardii, C. pustulata* and *C. rupicola*) are endemic to the transitional zone in the northern extreme of the island between the sub-humid and dry bioclimate with annual temperature between 15-38?C and annual rainfall between 400-2,000 mm.

? The montane rare ericoid thickets in three high elevations of the inland plateau, above 1800 m of altitude.

? The dry deciduous forests with high ratio of endemic species in the north-western lowlands, extending from the sea level up to 600 meters, with annual temperature 15.0-38.9 ?C and annual rainfall ranging from 400 to 1,500 mm. The majority of the wild coffee species from the *Baracoffea* sub-section (e.g. *Coffea ambongensis, C. boinensis, C. labatii, C. decaryana, C. namorokensis, C. pterocarpa, C. bissetiae, C. grevei* subsp. *mahajangensis*) occur in the dry forest bioclimate.

? The subarid succulent woodlands in the rain shadow southwestern and central-western part of Madagascar, with annual temperature 10.5-41.5?C, annual rainfall ranging from 400 to 1,000 mm, and

marked dry season from May to October. Two wild coffee species from the *Baracoffea* sub-section (*C. humbertii* and *C. grevei* subsp. *grevei*) occur in the subarid woodland bioclimate.

? The subarid spiny thickets in the southern extreme of the island, on poor substrates with air temperature 15.2-42.3?C and low, erratic winter rainfall (350-1,000 mm). They have the highest level of plant endemism in Madagascar (48 percent of the genera and 95 percent of the species).

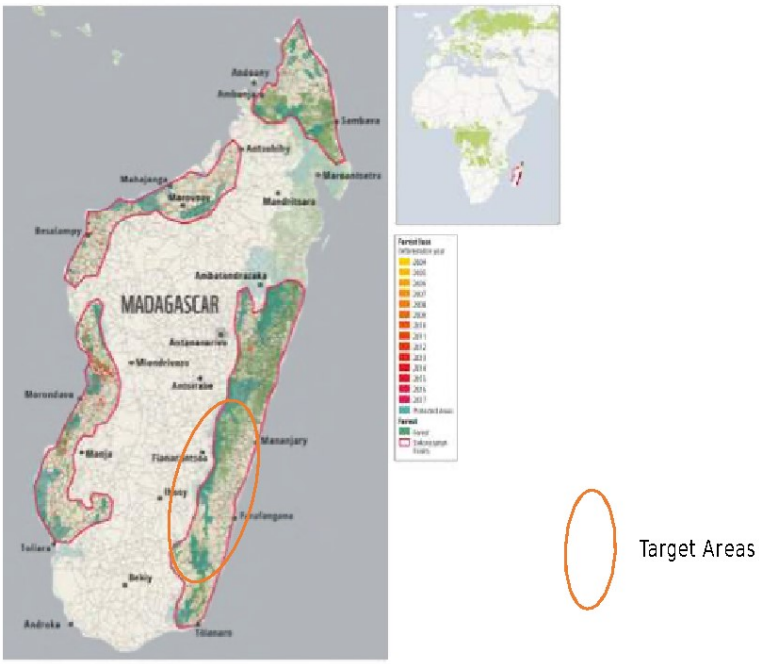
? The mangroves in the western coast along the Mozambique Channel, characterized by *Rhizophora mucronata, Bruguiera gymnorhiza, Ceriops tagal, Avicennia marina, Sonneratia alba* and *Lumnitzera racemosa*.

According to FAO data, Madagascar contained 12.43M ha of forest in 2020[1][1], with primary forest occupying 5.1 percent of the country. The natural forest ecosystems in Madagascar are known for their remarkable biodiversity and high level of endemicity. There are 11,262 native vascular plants in the country, from which 82 percent are endemic[2][2]. Forest ecosystems host 3,118 tree species, from which 2,904 are endemic to Madagascar. The majority of trees (1,769 species) occur in the humid lowland forests, followed by the dry forests (1,058 species), the subhumid forests (547 species), and the sub-arid woodlands (376 species). More than 92 percent of the island?s mammals, nearly 60 percent of birds, 90 percent of plants (including 62 wild Coffea species), and 97 percent of reptiles and amphibians are endemic.

The rural population is highly dependent on a wide range of non-timber forest products for food, medicines, tools and fuel. A large number of endemic trees of Madagascar (1,533 species) have a range of uses, such as timber for construction (513 species), fuelwood & charcoal (202 species), medicines (173 species), horticulture (67 species), household (HH) goods (63 species), food (59 species), handicrafts (48 species), fiber (36 species), fodder (21 species), among other uses. For instance, about 150 forest plant species with edible parts (e.g. fruits, roots, leaves) in eastern Madagascar are consumed directly -mainly by the poorer HHs - or sold to raise income through an unorganized market with low prices[3][3].

According to a recent WWF report released in early 2021, Madagascar is one of the 24 deforestation fronts[4][4] that all together include fifth of the world?s total tropical and sub-tropical forest area (377 million ha, from which 256 million ha are primary forests) and suffered 10% deforestation (about 43 million ha) between 2004 and 2017[5][5]. The target regions of Vatovavy, Fitovinany, Atsimo Atsinana, and the eastern part of Amoron?i Mania are part of the ?*deforestation front*? in central-southeastern Madagascar (Figure 1).

Figure 1. The 2021 *Deforestation Fronts* in Madagascar[6][6] and the target area



Deforestation and forest degradation in Madagascar follows an alarming trend despite the successive reforms of forest resource management policies since the 1990s. The increase of deforestation rates after 2005 can be explained by population growth and political instability in the country. Forest fragmentation has significantly increased in the last six decades, with a large portion (46%) of the forest land located at a distance lower than 100 m from forest edge in 2014[1]. Nearly 90% of Madagascar's population relies on biomass for their daily energy needs and the link between population size and deforestation has previously been demonstrated in Madagascar[2]. The political crisis of 2009, followed by several years of political instability and weak governance could also explain the increase in the deforestation rate observed on the period 2005?2014. From 2001 to 2021, Madagascar lost 4.36 million ha of tree cover (including 0.9 million ha of humid primary forest), equivalent to a 25% decrease, and 2.14Gt of CO?e emissions[3]. The 14.6 percent of this loss took place in the four target regions, with the greatest loss in the Vatovavy-Fitovinany regions (443,000 ha equivalent to 28% of the region's trees cover and 244Mt of CO2 emissions), followed by Atsimo-Atsinana (157,000 ha equivalent to the 19% of the region?s tree cover and 84.7Mt of CO2 emissions) and in the last place Amoro'i Mania (37,800 ha equivalent to 21% of the region?s tree cover and 19.3Mt of CO2 emissions). Only in 2021, the country lost 235,000 ha of tree cover, equivalent to 119Mt of CO2 emissions. Around 15.8 percent (37,080 ha) of this loss have occurred in the target regions[4]:

? Amoron?i Mania lost 1,710 ha of tree cover, equivalent to 911kt of CO?e emissions.

? Vatovavy and Fitovinany lost 28,000 ha of tree cover, equivalent to 16.5Mt of CO?e emissions.

? Atsimo-Atsinanana lost 7,370 ha of tree cover, equivalent to 4.16Mt of CO?e emissions.

The direct causes of deforestation are widely understood to include:

? Agricultural expansion: Slash-and-burn rainfed agriculture involving rice (eastern and central part of the island), maize (drier regions), groundnuts, and cassava coupled with the traditional agricultural practice of conversion of forests to cash crops is the primary driver of deforestation. *Tavy* refers specifically to a shifting system of forest clearance for the cultivation of rain-fed rice, as practiced in the eastern rainforests of Madagascar.

? Unsustainable livestock farming and uncontrolled fires: Cattle ranching has been a long-time driver of deforestation in the country. Uncontrolled wildfires, fires set for grazing lands, and sometimes accidentally started fires by charcoal makers are a major direct cause of forest degradation and loss.

? Illegal exploitation of natural resources: Illegal exploitation of wood, weak law enforcement and weak administrative resources, lack of technical expertise on wood exploitation. Logging and wood harvesting is impacting over 2,400 (83%) of the country?s endemic trees, from which 600 threatened endemic tree species are exploited internationally for their timber. Illegal logging and exportation of precious woods like rosewood (*Dalbergia spp*) and ebony (*Diospyros spp*) are damaging pristine ecosystems and depriving the state of the revenue that could support a sustainable forest management system[5].

? Large-scale and artisanal mining, and transport infrastructures: Unsustainable and illegal exploitation without a permit. Madagascar is one of the top global producers of sapphires, most of which are mined by small-scale, informal or ?artisanal? miners, who are loosely regulated. For instance, more high-quality sapphires have been found in 2017 in the biodiverse area known as Corridor Ankeniheny-Zahamena than were found in the entire country over the past 20 years, causing serous deforestation inside the protected area, water pollution and insecurity problems.

Many of these threats represent a complete destruction of the forest ecosystems, with conversion to degraded habitats and denuded soils. According to FAO, around one third of the island?s land resources are degraded ? mostly due to erosion[6]. The removal of the native forest for cultivation and pastureland during the past 50 years has led to massive annual soil losses approaching 250 tons per hectare in some regions of the island, the largest amount recorded anywhere in the world. Studies have revealed that on cultivated land in the country?s Central Highlands over 10 tons/hectare of soil are lost on unprotected slopes every year because of a combination of farming practices, the lack of land cover and natural causes exacerbated by climate change, such as strong winds and heavy rain. In 2010, 1.9 million people were living on degrading agricultural land. The annual cost of land degradation in Madagascar is estimated at USD 1.7 billion, which is equal to 23 percent of the country?s Global Domestic Product (GDP)[7][7].

Habitat degradation, fragmentation and destruction is the main cause of biodiversity loss. According to the International Union for Nature Conservation (IUCN), 98 percent of lemur species are endangered, and 31 percent of species are critically endangered; 25 percent of amphibians (55 species) are included in the IUCN Red List, from which 18 percent are outside the protected areas network; at least 72 percent (43 species) out of the 61 wild coffee species in Madagascar are threatened with extinction, being the country with the highest threat level; 1,828 (63%) of Madagascar?s endemic tree species are threatened of extinction, from which 320 species are Critically Endangered, 911 species are Endangered, 597 species are Vulnerable, and 155 species are Near Threatened. The majority of threatened tree species and forest habitats are found in the north-east regions of Madagascar, with the highest numbers in extreme north-east (Sava and Diana). The target regions are moderately affected,

with 101-200 in Vatovavy-Fitovinany and Atsimo Atsinana, and 5-100 species in both Amoron?i Mania and Haut Matsiatra[8][8]. There are 307 threatened species endemic to Madagascar that occur entirely outside of the protected area network. Only 658 (22%) endemic trees are recorded in *ex situ* collections, including 286 threatened species. This means that 84% of Madagascar?s threatened tree species are not found in *ex situ* collections, falling short of Target 8 of the Global Strategy for Plant Conservation which calls for 75% of threatened plants to be held in *ex situ* collections[9][9] (Convention on Biological Diversity/CBD, 2012). Small *ex situ* collection numbers (83% of threatened species are found in five collections) are unlikely to capture sufficient genetic diversity to be used in restoration or reintroduction programs[10][10].

The serious problems of land degradation, deforestation, biodiversity loss and reduction of the country's agro-silvo-pastoral production capacity are exacerbated by the impact of global climate change (CC). Madagascar ranked as the fourth country in the world most affected by CC impacts in 2018, with 72 deaths (0.27 percent) per 100,000 inhabitants, absolute losses of USD 568.1 M, and a drop in per capita GDP of 1.32 percent. The country?s vulnerability is further exacerbated by the fact that more than 90 percent of the 26 million inhabitants live on less that USD 1.90 per day. In 2019, the island ranked as the fourth highest in the world for chronic malnutrition.

Projected changes in climate for Madagascar show an increase in temperatures between 1.1 ?C and 2.6 ?C by 2065, with the highest increase in the southern part of the country[11][11](see Annex P, Climate Analysis for more details).

Changes in climate envelops will entail the need to protect and restore forests outside the current network of protected areas and community-managed areas because future distribution areas with favourable conditions overlap very little with current ones, representing new conservation target areas that currently are not considered as conservation priorities. This suggests that migration will be essential for species to persist, a process requiring maintenance of maximum connectivity between areas of current and future suitable habitat[12][12]. Conservation of riverine forest corridors, and management (including restoration) of native forest for connectivity to maximize species response capacity in the face of CC, are essential elements of an adaptation strategy. While woodlots and other managed production systems cannot replace natural forest, they can simultaneously satisfy human needs and promote BD adaptation. The incremental cost per hectare due to CC (low-emissions and high-emissions scenarios) of achieving in 2080 the conservation of a minimum network of sites covering 10,000 ha[13][13] for 74 endemic plant species that are representative to the forest ecosystems in Madagascar has been evaluated inside and outside protected areas[14][14]:

? USD 0-60/ha for additional management within existing protected areas.

? Avoidance of forest degradation: USD 160?576/ha in community-managed areas and USD 252-1069/ha in unprotected areas.

? Forest restoration in non-forested land: USD 802?2710/ha within protected areas, USD 962?3226/ha in community-managed areas, and USD 1054?3719/ha in unprotected areas.

A majority of households in the target regions are chronically food insecure, which makes them extremely vulnerable to any climate or non-climatic shocks that further reduce agricultural production and food availability. Much of the agricultural land is severely eroded owing to unsustainable land-use practices, the use of suboptimal land for rice production, and the prevalence of slash and burn with much shorter fallow periods than needed. As a result, farmers in the target regions obtain very low yields (e.g. 0.7-0.8 tons/ha, much lower than the already low national average of 2.1 tons/ha[15][15]), which also reflect the limited access and use of inputs, animal traction and technologies. Climate change has already intensified the frequency and intensity of periodic extreme weather events, including cyclones, flooding and droughts, and consequently the vulnerability of farmers to agricultural risks has increased ? disease outbreaks, pest damage, crop loss during production and storage and accompanying income loss. Research in the target regions indicated significant impacts on farmers? food security due to extreme weather events ? an average of 3.2 to 3.8 months of food insecurity following cyclones, floods and droughts[16][16]. The peak cyclone season (January ? February) occurs during the ?lean season? when farmers are already experiencing food shortages. In addition, the recurring nature of cyclones (an average of 3 to 4 cyclones/year) often completely devastate crop yields, leaving farmers without the means to generate income and move out of poverty. Moreover, farmers periodically face significant pest (particularly mice) and disease outbreaks (particularly rice blast, *Pyricularia oryzae*) leading to substantial crop and income losses.

The project focuses on the two commodities, coffee and rice, of which information is provided below (more detailed nformation is included in Annex N).

Coffee: Madagascar is a centre of diversity of wild Coffea species, most of them are under serious threat due to deforestation which is the consequence of an increase in livestock grazing, conversion into agriculture land, human settlements, and intense fuelwood collection (see Annex N). The future of the coffee industry depends on the genetic diversity, organoleptic and climate-adaptive traits of wild coffee species, so the loss of their habitat and natural populations can compromise the future of an industry which is expected to reach revenue worth USD 155.64 Billion by 2026. In-situ and ex-situ conservation, ecological restoration and sustainable use of the Madagascar?s wild coffee species are therefore matters of global concern. That is why the international coffee fora recognize the need to work together and with local communities to achieve a sustainable coffee sector: integrating the sustainable intensification of coffee production, environmental conservation, and community livelihoods.

Two main species of coffee are of economic importance worldwide: *Coffea canephora* (also referred to as *Robusta*) and *Coffea arabica* (*Arabica*). Around 90 percent of the coffee produced in Madagascar is Robusta and Arabica takes up the remaining 10 percent. While it was primarily low-grade Robusta that used to be cultivated in the country, now the amount of higher-grade Robusta and Arabica beans has increased. Coffee production takes place in production units that are mostly very small (below 0,5 hectares) and small (from 0,5 to 2,0 hectares). Madagascar farmers in the High

Plateau grow sweet Arabica varieties (e.g. bourbon Pointu, the low caffeine content Arabica Elita, and the hybrid R? Telo) very demanded by the specialty coffee industry. Also, Malagasy Robusta varieties, such as Kouilou, are particularly neutral and balanced which makes them especially relevant for coffee blends and expresso.

According to statistics, 60 percent of the national coffee production (about 23,000 tonnes of green coffee in the production seasons 2018/2019 and 2019/2020) occurs in the 4 target regions of the Centre-South and on the Eastern Coast of Madagascar (Atsimo Atsinanana, Vatovavy, Fitovinany and Amoron?I Mania)[17][17]. In 2010, coffee production was increasing most rapidly along the eastern coast, where the climate is most favorable for coffee, and decreasing in Ihorombe (possibly linked to climate constraints and the promotion of maize plantation moving farmers to switch farmland away from coffee production)[18][18]. The larger increase along the eastern coast was explained by an increase in the price of coffee. However, price volatility of cash crops and weak investments in too old coffee production plantations is responsible for last decade? significant losses in the coffee production area in the eastern coast (target regions of Fitovinany, Vatovavy and Atsimo Atsinanana), through tree cutting and substitution with other crops such as cinnamon and cloves that have been favoured by growing market opportunities. In the case of Amoron?i Mania, where coffee plantations ? mainly Arabica due to climate conditions ? were not that significant, MEDD and MINAE have plans to significantly increase coffee agroforestry farmland, partly due to its growing potential with climate change projections.

Coffee production often takes place as an intercropping system with other crops (especially, a variety of fruit trees) and in areas that heavily suffer land degradation. Most of the coffee in Madagascar is grown on smallholder farms under organic production, not by choice, but rather because of a lack of access to synthetic fertilizers and other agricultural inputs. While current sustainable development of coffee domestic production is seen to be heavily endangered by the aging of most of existing plantations (having above 30 years), also the poorly owned and managed production/post-harvesting and processing approaches/techniques by value-chain operators are indicated as a major constraint in the profitable running of this business. Annex N describes the coffee value chain steps, stakeholders, linkages and functioning in the Vatovavy and Fitovinany regions.

SWOT analysis of the coffee VC in the target regions

Strengths	Weaknesses
? Economically viable activity. ? Potential of increasing production by rejuvenating/rising density and crop diversity within shadow coffee agroforestry systems. ? Large share of existing coffee is already grown inside shadow forests. ? The commercial margins currently generated allow some level of investment in the renewal of the orchard (pruning and coppicing) and the replanting of certain plots. ? Dominant natural production system, which would significantly easy organic/fair trade certification and the trade on these markets.	? Old and low-density orchard with resulting low yields. ? Tenure insecurity. ? Poorly mastered post-harvest process leading to low quality produce. ? Insufficient structuring of the VC, with too many intermediaries in the sector and many non-professional collectors, and opportunistic exporters. ? Absence of supportive policy framework and subsidies focusing on sustainable coffee production.
Opportunities	**Threats**

? Current prices, along with a growing demand for coffee on the national and international markets, increase the profitability opportunities for the small producers. ? High interest on Madagascar-origin coffee varieties by the growing *specialty coffee segment*, (European trading companies) focusing on the import of small volumes of *high-quality or single origin coffees*, for which they can pay interesting premiums. ? Project partnership with SFCC interested in piloting coffee VC development under PPP in Madagascar. ? Local processing of coffee (into roasted coffee) for potential sales on both domestic and international markets. ? Existence of the National Coffee Marketing Committee (CNCC). ? Ongoing research work on coffee improvement, and the potential use of wild coffee genetic resources for climate-adapted and market-demanded coffee varieties by the National Centre of Applied Research and Rural Development (FOFIFA). ? Availability of coffee seedlings from different varieties in local nurseries.	? Climate change induced changes in coffee growing suitability for some geographic areas. New suitable areas may be identified in forested land which may lead to deforestation if not well planned. ? Deforestation and tree cutting leading to land degradation and tree cover loss in coffee plantations. ? Lack of adequate policy enforcement and supervision of this industry which can allow opportunistic operators to market poor quality products. ? Market price volatility leading to replacement of coffee plantations with staple food crops (mainly rice) and/or other export crops (cinnamon, vanilla, cloves and cocoa). ? Reputation of Malagasy coffee threatened by a general lack of operators? professionalism and structuring of this industry.

According to FAOSTAT estimates, shown in table 2 below, both coffee cultivated surface and production in Madagascar, after having declined steadily till 2015, picked up again to reach values close to (in the case of surfaces) or even above of (for productions) those recorded in 2010. However, when compared to world coffee statistics, Madagascar shares (for both surface harvested and production) show a slight declining trend during the period under scrutiny. *France, Belgium* and *Egypt* are by far the largest, and most consistent over time, buyers of Madagascar coffee, while other countries (e.g. Germany, Greece, Bulgaria, Costa Rica, Comoros, Taiwan, Hong Kong) do buy Madagascar coffee more sporadically and in very limited quantities.

Table 2: Coffee harvested surface (Ha), production (MT) and export in Madagascar by Year (2010-2020)[3]

Calendar Year	Madagascar Surface[4] (Ha)		Madagascar Production[5] (tonnes of green coffee)		Madagascar Export (tonnes of green coffee)		Madagascar/World (Share - %)		
	Total	Index	Total	Index	Total	Export/ Production	Surface*	Production*	Export*
2010	118482	100.0	27418	100.0	2698	9.8	1.13	0.36.	0.05
2011	110064	92.9	31783	115.9.	5323	16.7	1.11	0.38.	0.09
2012	102181	86.2	35091	128.0.	8091	23.1	0.99	0.41.	0.13
2013	96780	81.7	29983	109.4.	5383	18.0	0.92	0.33.	0.08
2014	91792	77.5	35069	127.9.	10469	29.9	0.88	0.38.	0.15
2015	86998	73.4	30087	109.7.	6687	22.2	0.80	0.33.	0.10
2016	95201	80.4	24854	90.6.	2654	10.7	0.86	0.27.	0.04
2017	105182	88.8	27165	99.1.	5565	20.5	1.00	0.28.	0.08
2018	104434	88.1	24252	88.5.	2352	9.7	0.97	0.25.	0.03
2019	112491	94.9	22763	83.0.	263	1.2	1.01	0.22.	0.00
2020	?	?	22999	83.9	499	2.2	?	0.23	0.01

Note: (*): Calculated over FAO data for both world total coffee harvested surface (Ha) and ICO data for both coffee production and export (t green coffee).

Over the last 10 coffee years, the average growth of world consumption has been 1.9% per year. One segment that shows signs of particular interest on the European market is the one for the *specialty coffee.* A large number of specialized trading European companies focuses, in fact, on importing small volumes of high-quality or single origin coffees for which they pay interesting premiums (e.g. the Belgian EFICO and the Italian Garbin Coffee Trade purchase specialty coffees from Madagascar). The growing demand and the current limited supply of high-quality Robusta coffees (predominant variety in Madagascar) offers interesting opportunities for exporters who are able to provide a constant supply of fine Robusta coffees. The growth in the trade of certified coffees also reflects the rising demand in Europe for transparency and traceability of environmentally-sound and socially-responsible coffee products. Several large importers, roasters and retailers - Jacobs Douwe Egberts' (Supplier) Code of Conduct, Nespresso?s AAA Sustainable Quality Program and Lavazza?s Sustainability programme -

have developed their own sustainable sourcing programmes to meet the demand for traceability and strengthen direct linkages with coffee producers/suppliers.

Coffee-producing regions are increasingly experiencing the occurrence of climate conditions outside optimal ranges[1] including heat waves and droughts that are expected to impact coffee production and the geographic positioning of growing sites. In recent decades, Malagasy producers reported unfavourable climatic conditions during the harvest period for optimal drying of the coffee, as a major cause of poor-quality coffee production. The higher frequency of cyclones has damaged many *Robusta* coffee growing areas in the eastern coast of the country. Modelling of current and future climate suitability suggests that higher temperatures may reduce yields of *C. arabica*, while *C. canephora* could suffer from increasing variability of intra-seasonal temperatures[2]. Climate change will reduce the global area suitable for coffee by about 50 % across emission scenarios, with highest impacts at low latitudes and low altitudes, and less pronounced although still negative impacts at higher altitudes and higher latitudes The price ratios between Arabica coffee and Robusta coffee will change as Arabica reaches a thermal threshold. This represents an opportunity for the coffee production in the intervention areas where Robusta variety concentrates, and which is acknowledged as a higher resilient coffee variety in terms of water and heat stress. Several highland regions in East Africa, included Madagascar, have already been identified as areas where climate change is expected to increase the suitability of growing conditions for coffee production[3]. However, coffee cultivation in any new opportunity regions might require notable land-use changes such as deforestation that is associated with loss of biodiversity and increased greenhouse gas emissions.

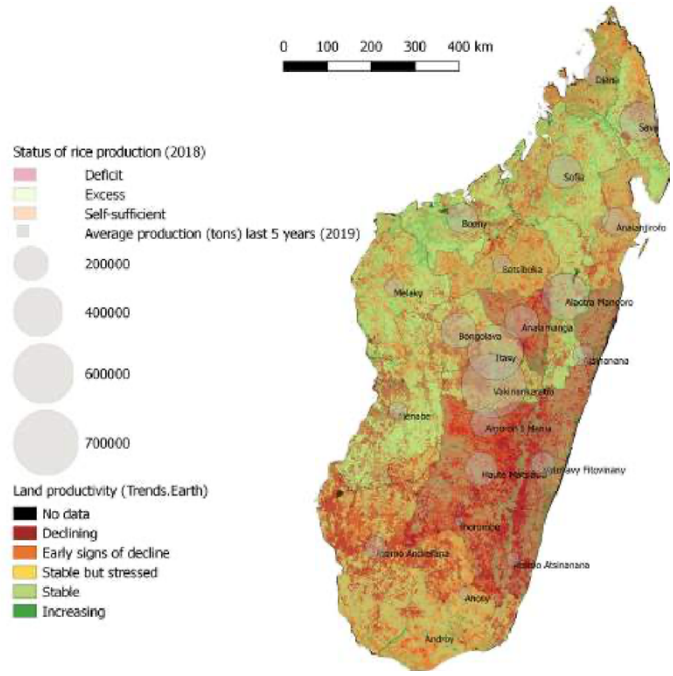
COVID-19 crisis has disrupted activities along the entire coffee value chain across Africa, leading to stockpiling of coffee at farm levels, reduced price to growers, reduced domestic consumption due to closures of coffee roasting units, and closure of distribution outlets. The Inter-African Coffee Organization (IACO) has joined forces with the International Coffee Organization (ICO) and the Centre for Agriculture and Biosciences International (CABI), to undertake an emergency intervention program to alleviate COVID-19 impact on Africa?s coffee sector through systems and agricultural practices that ensure sustainable intensification of smallholder coffee farming systems, ensure income security, guarantee food and nutrition security (e.g. incorporating high-value crops that provide food and income during coffee off-seasons) of coffee producer HH, develop rural-based Small and Medium Enterprises (SME) in aggregation, grading, packaging and distribution of coffee and produce from the associated crops, and promote the creation of entrepreneurial jobs beyond farming, both in the rural and urban areas[4]. Projected costs of this initiative estimated at Euro 9.6 million, will be met through grants from Development Partners (e.g. EU) with an additional Euro 2.4 million drawn from counterpart contribution of the recipient countries.

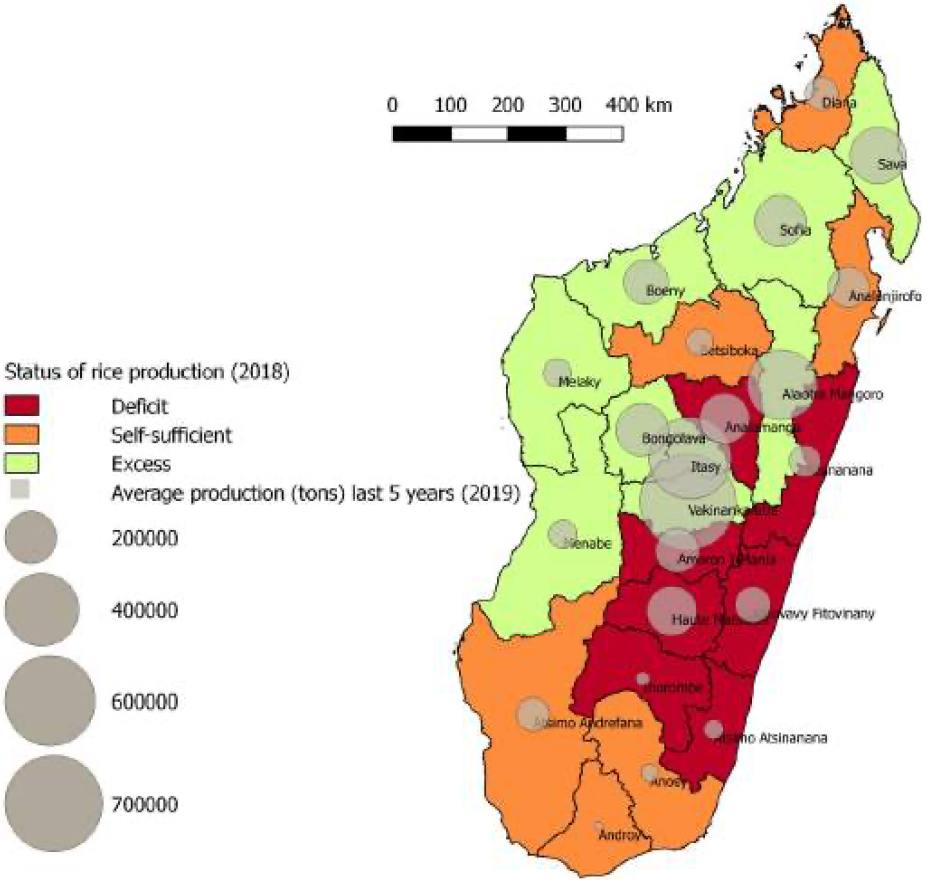
Rice: The two key commodities for ensuring food security in Madagascar at a national level are rice and fish. 75% of Madagascar population is employed in the agricultural sector, with rice (nationally) and cassava (regionally) being two of the most important crops[5]. Rice is the main staple food in Madagascar for the vast majority of the population throughout the island, both in rural and urban areas (respectively 138 kg/person/yr and 118 kg/person/yr)[6]. Rice is the dominant crop in the country both in terms of area occupied (1,307,043 ha in 2010 according to official data) and production amounting

to 2,822,174 tons in 2019[7]. Most of the rice produced in Madagascar is intended for domestic/home consumption, and only between a quarter and third of the paddy production is sold on the market. The local supply does not yet manage to meet the national demand/consumption, and the country imported an average of 420,185 tons of white rice over between 2015 and 2019[8].

The average rice area per HH is 0.27 ha for irrigated production and 0.38 ha for rainfed rice[9]. About 2 million households practice irrigated paddy cultivation, which is widely practiced in almost all regions, except in the extreme south and southwest of the island with less favourable geological and climatic conditions[10]. All regions have experienced an increase in land area producing rice for the period 2005?2010, with the greatest increases occurring along the eastern coast and in the central plateau[11]. The two target regions of Atsinanana and Vatovavy Fitovinany are amongst the six regions with *greater areas growing this crop.* In the central plateau, farmers have adopted appropriate techniques to improve rice production such as SRA (Systeme de riziculture ame?lie)/SRI (Systeme de riziculture intensive) and irrigation systems for rice cultivation on slopes.

Figure 6. Status of rice production and land productivity in Madagascar (2018) **Figure 7. Status of rice production in Madagascar (2018)**


0 100 200 300 400 km
Status of rice production (2018)
Deficit
Excess
Self-sufficient
Average production (tons) last 5 years (2019)
200000
400000
600000
700000
Land productivity (Trends.Earth)
No data
Declining
Early signs of decline
Stable but stressed
Stable
Increasing


0 100 200 300 400 km
Status of rice production (2018)
Deficit
Self-sufficient
Excess
Average production (tons) last 5 years (2019)
200000
400000
600000
700000
Diana
Sava
Sofia
Boeny
Melaky
Betsiboka
Alaotra Mangoro
Bongolava
Itasy
Vakinankaratra
Menabe
Haute Matsiatra
Ihorombe
Anosy
Androy

Despite the efforts of successive governments to increase productivity and agricultural production, the rice sector in Madagascar has remained static for quite a long time. The four target areas suffer from deficit in terms of rice production (Figure 6), and land productivity is significantly declining (Figure 5). In comparison with other sub-Saharan countries, the average paddy yield in Madagascar remains low (2.5 t/ha), as well the labour productivity (22 kg grain/Labour Day or 132 Labour Day/ha) and the average net profit (USD 336/ha).

Rice is generally associated with crops such as maize, pumpkin, and legumes, and may be followed by a tuber crop like yam or cassava. The main rice production systems in Madagascar can either be rainfed or irrigated[1]:

Irrigated rice production in flat or terraced areas of land that are consistently farmed each year:

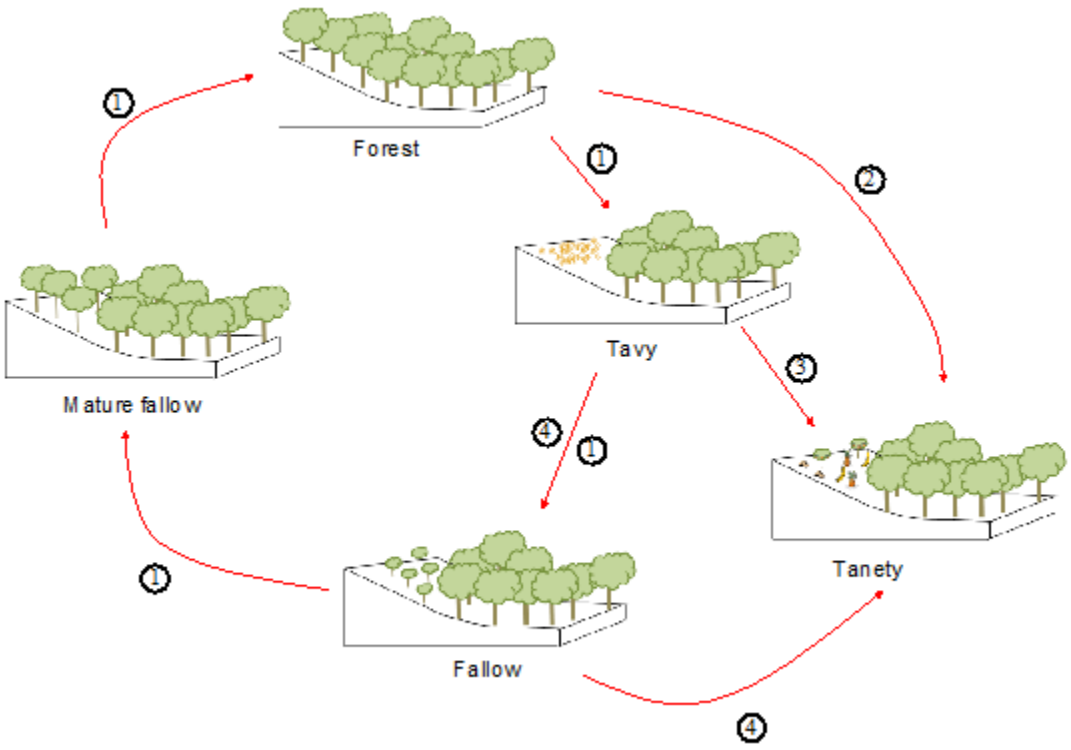
? *Conventional paddy* rice production occurs in permanent lowland or terraced fields, where the soil is annually tilled before planting, and flooded throughout the course of the rice growing season, so it requires some level of water management and irrigation.

Rainfed rice production typically occuring on hillsides utilizing a rotating plot system:

? *Tavy* is a traditional method of rain-fed, hillside rice production that involves cutting and burning of primary and secondary woody vegetation prior to sowing rice seeds. *Tavy* plots are typically cropped once or twice, depending on the soil fertility, used for one or two consecutive years and then left to lie fallow for a time when secondary forest will regrowth, as new areas are burned and added to the rotation. Rice is generally associated with crops such as maize, pumpkin, and legumes, and may be followed by a tuber crop like yam or cassava. The majority of *tavy* crop production is grown for home-consumption. Though *tavy* encroachment banned inside protected areas and the use of fire is discouraged, farmers are permitted to continue *tavy* in designated areas of previously cultivated fallow land known as *savoka*. Many farmers do not have sufficient plots to allow for adequately long (8-15 years or more) fallow periods between rotations, hence soil quality and productivity in many areas are decreasing due to increased slashing pressure every 4-5 years. None of the woody fallow species are able to withstand short slashing frequency, and after three or four cycles following primary forest deforestation, herbaceous species begin dominating the fallows, and soil fertility drops to a level so low that peasants abandon the old, deforested fields and clear new patches of primary forest.

? *Tanety rice production in an agro-forestry system where rice is mixed with perennial crops and remaining trees in cleared forestland or as a resut of tavy transformation after a fallow period (step 4 in figure below) or after a second or third cycle of tavy (step 1 followed by step 3 in figure below). On tanety, perennial crops, for example vanilla, coffee, cloves, and other cash crops, are grown together with subsistence crops, e.g., banana and semi-perennial crops like roots and tubers.*

Figure. Tavy and tanety rice production dynamics[1]



Under a growing population trend, rainfed rice production has become a significant part of the overall rice production that forms the staple of the Malagasy diet. The introduction and adoption of new rice varieties (varieties originated in local research institutions and a Nepali rice variety particularly suited to local conditions) has allowed the increase in the production of rainfed rice[1]. Crop-livestock integra- tion is widespread and manure remains the primary source of fertilization for crops. Livestock husbandry also provides a local opportunity to leverage plant resources and increase revenues. The problem faced by farmers with limited arable land is their inability to increase land productivity because they have very limited access to conventional intensification methods (fertilizer, mechanization, pesticides), and this in a fragile environment and with steep slopes.

According to the Ministry of Agriculture, the rice sector faces various constraints and obstacles, among others[2]:

? Isolation of many production areas (slowing down trade and technical progress) and the environmental degradation due to maladaptive practices (deforestation and siltation problems in rivers and irrigation channels in particular).

? Failure of a large number of irrigation networks preventing efficient water management and productivity improvements.

? Low level of technical innovation in farmers? production systems (e.g. the use of conventional techniques, low use of agricultural equipment and materials, fertilizers and improved seeds, among others).

? Difficult access to financing.

? Low entrepreneurial spirit of smallholder farmers whose strategy is often guided by minimizing the risk, especially for producers in a self-sustaining situation.

? Precariousness of land tenure which annihilates any investment effort.

Climate change rising temperatures might boost rice production in the central highlands of Madagascar, where lower temperatures currently limit the growing season. However, weather patterns are becoming unpredictable, with erratic rains negatively affecting both the planting and the harvesting seasons. In fact, in the last years climate change has already caused a delay in Madagascar?s rice harvest for several consecutive seasons due to lack of rains during the ripening period. Moreover, cyclones frequency has passed from one every 5 years to one every year, with heavy rains and flooding destroying rice crops and destroying the irrigation infrastructure through siltation and collapse of the walls. Industry experts have recommended that farmers manage water better and use seeds that take less time to mature. A shortage of rice in the Indian Ocean Island nation may result in price increases of the grain.

Value chain commodities associated to coffee and rice diversified production systems[3]:

The ecological and socio-economic sustainability of coffee and rice production systems largely depends on the interest and ability of farmers to diversify their production with other crops (intercropping, off-season crops, and crop rotation) and with non-timber forest products (NTFP). Complementary crops and NTFP products not only increase the food and economic security of farmers, but also: (i) facilitate the adoption of labour-intensive sustainable intensification production systems, (ii) increase their adaptability to climate change, (iii)) improve the hydro-edaphic conditions of the crop fields, and (iv) help reduce the pressure of deforestation in search of fertile land to cultivate.

During the consultations and workshops with the local actors of the target areas, the project formulation team identified a series of value chain commodities with high potential to complement and give sustainability to the main target productions of the project - coffee and rice. Annex N contains detailed information on the value chain commodities referred to below:

Legume crops include numerous indigenous varieties. They play a major role in the sustainable intensification of rice production. FOFIFA is responsible for the production of legumes crop species and varieties that correspond to the regional agro-ecological features. The seeds thus obtained are propagated by private seed producers and agricultural cooperatives, but a large number of farmers use seeds collected by their own means. According to FOFIFA staff and agricultural cooperatives engaged in seed propagation activity, the demand for legume seeds is high, and orders related to production and sale may be placed by private companies or donors/lenders. However, since there are no warehouses to store the seeds produced and there are no stocks of seeds due to the impossibility of storing them, in general it is the principle of production by order which is applied.

Honey production offers significant crop pollination services, food and income diversification to households living in/around protected and unprotected forestland, as well as positive commercial and REDD+[4] impacts. People involve in beekeeping activities enjoy the benefits of having forests around ? where they locate their hives - and will avoid/help prevent deforestation therefore directly contributing to the REDD+ mechanism which aims to provide an economic incentive for countries to conserve, rather than cut down, their forests in order to reduce greenhouse gas emissions. While existing honey production is estimated at 3,000t each year in Madagascar and generates USD 6M in revenue, it has potential for major expansion.

Basketry is a well-known activity, especially for peasant women and young girls in the Vatovavy, Fitovinany and Atsimo Atsinanana regions. It is a sector whose natural resources are still abundant which guarantees further sustainable development opportunities. The village communities themselves are the suppliers of the plant fibers used, but the big problem is that they are not encouraged and trained in the cultivation of fiber resource plants, such as rush, etc. They are not even aware of sustainable natural resources management (NRM) procedures, causing a negative impact in the natural regeneration of fiber plant species.

Wild silk: The moth *Borocera cajani* is endemic to Madagascar and primarily found in the Tapia woodlands of the central highlands in the target region Amoron?i Mania. It is one of three silk moths found within the region but only B. cajani is exploited in the silk industry. The woodland is dominated by the Tapia tree (*Uapaca bojeri*) and has been highly disturbed in recent years due to frequent fires and land clearing resulting in habitat fragmentation. The NGOs Ny Tanintsika and Feedback Madagascar have worked actively with local communities to protect the remaining woodland, reduce habitat degradation and engage in restoration activities. They have provided support to women?s groups and households to find alternative income streams and increase the commercial value of their silk products, while build their capacity for the conservation and forest management of the Tapia woodland.

Clove is one of the main export products of the Vatovavy and Fitovinany regions, with most of the production is intended for export mainly to Singapore, Europe and the United States. **Litchi** VC has a good reputation in the Vatovavy and Fitovinany regions. Currently, production is intended to supply

three major markets at the national level: the markets of Fianarantsoa, Antsirabe and Antananarivo. The lychee sector is in second place after the banana sector in terms of fruit production area occupied and production in the target regions, and in first place in terms of performance.

Underlying causes and barriers

As described above, deforestation and land degradation in Madagascar is the result of various interrelated social, cultural, economic, and political factors that threatens the livelihoods of rural communities and prevents the necessary conditions for the sustainable intensification of production systems compatible with biodiversity conservation. The monoculture cultivation of rice under poorly managed *tavy* (significant reduction of fallow) in mountain areas is the main problem of deforestation in the target areas of the project, a problem that extends to agroforestry systems such as coffee, which are abandoned and cut down due to a multiplicity of factors having high relevance the volatility of the international market. Of particular concern is the process of ?landscape homogenization? through the establishment of new upland rice fields that removes the last fragments of forest that scatter the unprotected landscapes. Beyond *tavy* as a rice production system per se that contributes to forest loss, deforestation is a growing problem due to the use of maladaptive *tavy* practices (significant reduction or absence of the required fallow period that prevents the recovery of the forest) by farmers with limited land ownership mainly due to population growth and population migration. Despite the National Rice Development Strategy (NRDS) that promotes the intensification of rice production to doubling paddy rice production and reduce national dependence on imports, smallholder farmers keep tavy production in all or in part of their lands as a climate-risk reduction strategy (paddy crops are highly damaged by cyclones and floods), as a means to acquire land ownership (acquisition of new cleared areas), or as the only agricultural production option in the case of poor farmers who lack access to fertile lowland plots. Likewise, the different socio-cultural contexts, inclusion/exclusion in the local governance systems (e.g. local community groups and migrants with and without historical customary rights respectively), and land use/livelihood strategies of the different ethnic groups that live in the landscape, makes it difficult to plan for sustainable land uses at the landscape level and define community-based natural resources? management transfer plans and community by-laws that are recognized and adopted by all members of the local communities. Since 1996, the GELOSE/GCF[5] laws provide a legal framework to transfer resource management rights from the state to local community groups (COBA[6] in French or VOI in Malagasy) with historical customary rights mainly inside protected areas. The establishment of a GELOSE/GCF contract requires the creation of an association (COBA/VOI) that brings together rural stakeholders who are willing to collectively manage their resources. COBA/VOI agreements or management contracts, are signed for a three-year period, then evaluated and renewed for ten more years if successful, and evaluated again before being turned into definitive agreements. According to the law, it is up to local communities to take the lead in implementing GELOSE, by requesting management contracts with the Forest Service when they deemed it worthwhile. However, it is often the initiative of international NGOs to push for management contracts, reflecting the agenda of the leading institution (NGO and/or project) that supports the implementation of management transfers, rather than the priorities of the community. Under GELOSE and GCF, the Government permitted local social norms known as *dina* to be formalized and ratified as by-laws in the context of Community-based Natural Resources Management (CBNRM) contracts and plans. *Dina* have since been used to formalize resource use regulations (e.g. specific rules for each management zone and natural resources, as well as penalties and enforcement

mechanisms) in a range of CBNRM initiatives, including community forestry contracts, locally managed marine areas (LMMAs), and the co-management of new protected areas. Dinas are developed in a participatory process, can be applied against offenders locally, and serious cases can be taken to a magistrate?s court if required.

However, natural resources? management transfer rights are facing major challenges due to:

? policy constraints: (a) absence of required guidelines and accompanying decrees for the implementation of land tenure governance laws; (b) weak landscape level planning capacity amongst the administrative authorities, hampers their ability to provide guidance for participatory (inclusive of the needs and land tenure rights of all direct users) and integrated land use planning processes; (c) weak capacity for mainstreaming zero-deforestation and land degradation neutrality into development sectors.

? lack of access to innovation and knowhow on viable land use alternatives and climate-smart management practices.

? limited resources (limited unqualified public staff and funding supporting sustainable NR management, which is the main objective of the transfer process).

? top-down decisions ? mainly international BD conservation NGOs - about management transfer contracts and plans causing conflicts among community members (e.g. not inclusion of all direct users and users? needs).

? inability to harmonize and enforce regulations (bylaws, also known as dina in Madagascar) among COBAs and other members of the community.

? population growth pressures pushing for forest conversion into arable land through slash-and-burning agriculture.

In the case of cash crops such as coffee, political and economic factors operating at the international level encouraged the expansion of forest clearance by rural households. Recent cash crop booms appear to have induced agricultural intensification processes in the target landscapes, while also putting additional pressure on forests, as people may be encouraged to clear forest and agroforestry systems for cash crop cultivation. Madagascar coffee growers, most of whom are smallholders, have suffered from the significant volatility and fall in the international price of this commodity over the past decade. While other industry?s operators can hedge market volatility to an acceptable level of risk, small farmers do not have that capacity. Furthermore, price uncertainty and land tenure insecurity make it very difficult for small farmers to invest in the farm infrastructure that would improve their crop quality and output. In many areas of the target regions, small producers have decided to replace their coffee trees with other crops, such as cinnamon, either following recommendations from local, national, or international actors who provide extension support, or by per-to-per advice. For this reason, the area dedicated to coffee crops has followed a reduction trend in recent decades. To this, it must be added the significant loss of natural forests where many indigenous coffee species occur (genetic resources of extreme importance for the future of the coffee sector under a climate change scenario) due to: (i) *tavy* production (but also mining and other land uses), and (ii) the potential risk of deforestation that may

cause the revitalization of coffee plantations, especially in the context of climate change that projects production suitability towards areas of higher altitude than those that are currently in production.

Smallholder farmers find themselves in a vicious circle that leaves them trapped in production systems with very low yields that induce an increase in deforestation and land degradation, which further reduce production capacity and keep forcing them to intensify deforestation. Multiple factors (underlying causes) are behind this circle, including:

? Tenure restrictions: poor farmers cannot access high quality lowland paddy plots and are often excluded from NRM transfer contracts. Moreover, the rapid population growth trend prevents mainly young farmers to access arable land in their homeland and forces them to (i) disobey community/VOI regulations and undertake illegally wood harvesting or tavy in areas where it is prohibited (e.g. surrounding forest and agroforestry crops with shade trees), and/or (ii) migrate to other regions where they may undertake illegal slash-and-burn rainfed rice production and wood harvesting in other regions.

? Scarce availability of arable land to absorb population growth: this mainly affects young family members that are often forced to migrate to other cultural groups? territories where they may undertake illegal wood harvesting and *tavy* cultivation.

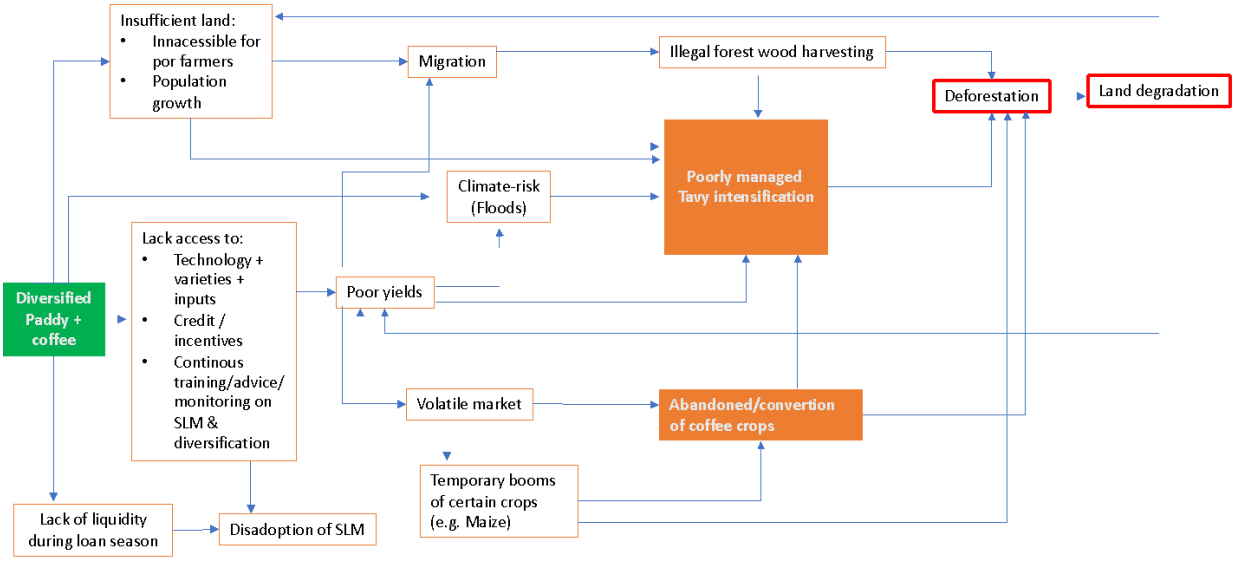
? Climate risks: the climate change intensification of cyclone periodicity (one every year) and consequent lowland floods causes major paddy crop losses. Many farmers maintain part of their crops under *tavy* as an adaptation strategy to ensure minimum yields, as mountain slopes are less vulnerable to cyclone impacts.

? Lack of liquidity to meet basic needs during the loan period (when job opportunities are scarce and incomes plummet): poor farmers get liquidity to cover subsistence needs as hired workers in others? fields, preventing them from increasing the time needed to achieve high productions or diversify production through climate-smart, labour-intensive management systems and technologies (e.g. SRI/SRA under CA/OA[7]). This leaves them trapped in production systems with very low yields that induce an increase in deforestation and land degradation, which further reduce production capacity and keep forcing them to intensify deforestation.

? Lack of access to climate-smart technologies, climate-adaptive crop varieties / coffee genetic resources, and inputs due to the scarce availability of adequate equipment, high quality and climate-adapted seedlings/seeds, and inputs in the territory, the scarce access to credit of poor farmers, or the lack of adequate subsidies that support the conversion towards sustainable production practices and diversification. This prevents coffee producers to rejuvenate their highly unproductive old coffee plantations.

? Limited and insufficient access to training, extension support and technical advice (monitoring) due to a low educational level (illiteracy) of poor farmers, low number of trainers/extensionists with insufficient knowledge and ability to train farmers in innovative systems and technologies, and with few means of transportation to access remote and poorly communicated areas.

Figure 8. Analysis of landscape degradation drivers



The barriers described below explain the factors that prevent reversing the underlying causes of current trends of land degradation, deforestation, ecosystem services loss, and limited adaptive capacity of farmers to achieve a sustainable intensification of their production systems and commodity chains in the target landscapes.

Barrier 1: Low adoption and dissemination of climate-smart NRM practices preventing the sustainable *intensification and diversification of rice and coffee commodity chains*

? Limited capacity to support farmers? shift from conventional to innovative production, post-harvesting and processing technologies: public and private extension providers have limited knowledge and direct experience in the production and use of plant reproductive material of agriculture crops (e.g. varieties of rice, coffee and other complementary rotational/offseason crops), well adapted to current and projected local agroclimatic conditions, as well as of native forest genetic resources (including wild endemic trees/shrubs, agroforestry trees, shadow tree species and wild coffee species). In addition, and despite having been developed in the country (SRI) or introduced in recent decades, public and private extension providers still have a limited capacity (limited experience or capacity as trainers; little personnel will limited means to provide continuous support in hardly accessible areas) to train farmers in the effective implementation of sustainable and climate-smart production and post-harvesting technologies, such as conservation agriculture (CA), organic agriculture (OA), system of rice intensification (SIR) and system of rice amelioration (SRA), integrated tree-crop-livestock agroforestry systems, integrated pest-management (IPM), climate-proof drying and storage facilities, rice milling, modern methods of coffee processing, among others. National research centres (e.g. FOFIFA[1], Silo National des Graines Foresti?res (National Forest Seeds? Silo) - SNGF[2], Kew Madagascar Conservation Centre- KMCC[3]), universities, private enterprises (e.g. Omniverdi) and NGOs, have supported the development of new and better adapted varieties from rice, coffee and other crop species,

have developed nursery production protocols and planting techniques for a number of native forest trees and shrubs, and have successfully tested sustainable land management techniques in pilot demonstration plots. However, more applied research through community-based learning-by-doing demonstration plots is needed to increase knowledge on climate-adaptive production protocols for suitable crop varieties and native forest species ? including the production of wild coffee species and the use of their genetic material for *arabica* and r*obusta* improvement and CC adaptability ? and for effective land management and planting techniques that can increase soil water availability, plant survival and growth. There is a very limited transfer of knowhow on agriculture and forestry innovations through updated training programs in regional training centres (e.g. Center for Support and Professional Agricultural Training - CAFPA, Ecoles de Formation de Techniciens Agricoles- EFTA) and the direct exposition of practitioners to technology innovations in field demonstration plots. Moreover, the number of extension staff from decentralized public centres is a very limited one, with limited capacity to meet the needs of all land users, especially in remote areas with difficult access. In the case of farmers and forest users benefiting from extension support on innovative technologies and production systems, the frequent discontinuity and short duration of technical advice and absence of continuous monitoring that occur in many projects makes farmers feel abandoned which often leads them to revert to maladaptive conventional practices. This is a major problem when innovative production systems, such as CA, start providing positive improvements after a number of years (e.g. mastering CA requires 5-7 yr of continuous extension support).

? Limited availability and incentives to acquire/produce suitable plant material (seeds, seedlings and cutting from suitable and climate-adapted species and varieties), innovative equipment and inputs for coffee plantation rejuvenation, and climate-smart production, post-harvesting, processing and marketing. The non-availability of the plant material, equipment and inputs required in the implementation of innovative practices of production, post-collection, processing and restoration of ecosystems, is one of the factors that hinders effective adoption by users. In the case of coffee plantations, aging of coffee trees is one of the main factors causing low productivity and unsatisfactory product quality of the coffee production-units in target regions. In fact, if the project does not guarantee the availability, accessibility and knowledge about this plant material, equipment and inputs before the beginning of the field activities, erroneous decisions can be made (e.g. substitute with what is available, even if it is not adequate) and prevent obtaining the expected results.

? Lack of farmers? liquidity: Farmers? liquidity seems to matter a great deal among vulnerable farmers to the initial adoption decision to shift from conventional rice production methods to labour-intensive SRI/SRA under CA management systems. In the absence of income or seasonal credit access, poor farmers get liquidity to cover subsistence needs as hired workers in others? fields, preventing them from increasing the time needed to meet the production requirements of innovative practices over a longer seasonal period. In some regions of Madagascar, off-farm crop diversification in rice farmland is an income-generating pathway that increases farmers? liquidity during loan period, and it allows them to face expenses (including labour) being able to dedicate the necessary time to innovative and labour-intensive production systems, which in turn are less costly than the traditional ones.

? Cultural and social constraints: Social acceptance may affect farmer?s choice of cultivation methods in the direction of conformity to community norms or desires of authority figures. Cultural differences (e.g. the strong family ties of Tana people against the more individualistic approach of Betsileo people in the Ranomafana-Andringitra forest corridor in Eastern Madagascar) in some cases facilitate adaptive management of NR (e.g. family mutual aid in Tana people favouring livelihood diversification) or lead to by-law transgression (e.g. clandestine wood collection and *tavy* deforestation

by Betsileo people to cope with unfavourable conditions) and migration (e.g. off-farm employment and settlement of Betsileo people in Tanala region).

? Lack of education: According to surveys, adopters have had more years of schooling on average than non-adopters have. More education improves both one?s access to information on new technologies and farmers? access to, and understanding of, policies and regulations supporting sustainable agriculture intensification. Moreover, better education facilitates farmers? access to resources (such as written tenders and applications for NRM transfer contracts, agriculture/forestry subsidies, etc.).

? Weak associationism behaviour: A striking difference between adopters and non-adopters of innovative agronomic practices is in farmer association membership. According to surveys, adopters are more likely to belong to a farmer association. Organized farmers have a number of competitive advantages against individual farmers, such as the sharing of production and marketing costs, inputs and equipment, the sharing of marketing tools and higher bargaining power.

Barrier 2: ***Poorly developed markets, weak professionalization and organization of supply chain actors, and limited private sector investment opportunities for high value diversified products under sustainable agriculture and agro-forestry production systems.***

? Weak access to markets: Coffee is a cash crop with the local market absorbing most production and only 0.85 being exported in 2019/20. Over the last thirty years, Madagascar has shown quite dramatic trends in its coffee export figures, shifting from a value of about 44.000 MT in 1990/1991 to around 500 MT in 2019/2020. Several governmental initiatives to support the coffee industry were suppressed (e.g. the STABEX special funds for the coffee sector were abolished in the 1990s) or became inoperative (e.g. the National Committee for Coffee Marketing - CNCC - has not been operational for the last decade). Therefore, the current trade of the nationally produced coffee is substantially directed to the domestic market. Several factors are heavily hindering market access for Malagasy coffee: (i) low yields in poorly managed plantations (suffering abandonment, degradation and conversion into other uses) with aged trees and maladaptive post-harvesting practices compromising the capacity to guarantee regular volumes of high-quality supplies to meet demand; (ii) poor transport infrastructure; (iii) high fragmentation of the value-chain actors; (iv) high fluctuation of market prices ?especially on external markets, due to the competition from other large, international producers.

The marketable surplus in rice production (mainly staple crop) is around 20 to 27% of the national production, being higher in the case of farmers with more than 0.5 ha (up to 56% of the rice harvested)[6]. The production of off-season vegetable crops in rice farmland with a diversified production is more directly oriented towards markets (e.g. most of the production of legumes, tomatoes and onions) and increased liquidity of farmers. Farmers? marketing strategies are determined by their livelihood assets (e.g. rice-cultivated area, number of permanent and hired workers, availability of storage facilities to sell when prices are higher, access to credit, membership to famers? organizations and value chain platforms, farmers? participation in inclusive agribusiness models such as ?contract farming?) as well as their physical constraints to access the market such as remoteness. In fact, ungrouped smallholder farmers in poorly connected areas with more limited assets usually sell straight

after harvest at the farm gate at low prices. Most farmers have a good knowledge about prices on their nearest market, but a minority has a broader view of prices for different rice varieties/qualities in the main market centres, the best-selling periods, or the availability of products in the markets.

? Limited capacity and resources to increase the marketability of the produce: As already mentioned, the low participation of farmers in organizations, cooperatives or associations prevents them from accessing (e.g. joint applications with affordable co-funding requirements per individual, sharing facilities and equipment) to new production and processing technologies capable to improve product quality and diversify production and meet more/better market opportunities. Moreover, farmers receive limited training and technical support on basic entrepreneurial issues for running small businesses, such as organizational and accounting, socially responsible company?s management, quality and hygiene of production, produce diversification, certification and marketing issues.

? Weak knowledge of and accessibility to marketing opportunities: Market Information Systems (MIS) for smallholder farmers have included in the last decades information and communication technologies (ICTs) such as mobile phone messages, radio and TV news, in order to improve agricultural markets performances providing a better access to periodical information on production, prices, demand, and buyers. In Madagascar, the development of MIS started in 2005 with the OdR (for *Observatoire du Riz*, or Rice Observatory) disseminating French written bulletins through Internet (thereby reaching mostly institutions and large traders) and the SIEL (for Service d?Information Economique des L?gumes) or Vegetable Economic Information Service displaying weekly prices in blackboards disseminated in rural markets and broadcast market news through local radios (targeting mainly farmers). Both systems recently introduced mobile phone in the collection and the dissemination of market information (in 2014 for the OdR and in 2016 for the SIEL).

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However, their effective use by farmers remains marginal due to several constraints, mainly: (i) lack of understanding of farmers? information needs, reliability of data/data sources, and transmission delays; (ii) rapid ?disappearance? of the recipients due to changes in phone numbers or a loss of the phone itself, (iii) technical constraints such as difficulties to refill the battery and/or poor phone network and radio/TV coverage, (iv) training gaps and cognitive limits of the farmers, with low level of education and limited practice of ICTs[7], (v) technology cost for poor farmers.

Barrier 3: Weak policy mechanisms preventing effective integrated landscape-level planning, cross-sectoral coherence, sustainable commodity trade and responsible tenure governance.

? Lack of cross-sectoral compliance with the governmental objectives and tools supporting integrated landscape/watershed management planning (ILMP/IWMP[8]), BD conservation and sustainable development. Madagascar has created policies for sustainable and climate-resilient NRM and BD conservation that are well aligned in principle, including through the REDD+ process, the governments? international CC, Land Degradation Neutrality (LDN) and FLR commitments. However, application of policies and regulations on the ground is often still incomplete and contradictory and, as a consequence, deforestation associated with agricultural production continues. Internationally recognized and nationally adopted landscape-planning mechanisms, such as Forest & Landscape Restoration (FLR) and Integrated Watershed Management (IWM), help analyse, prioritize and

harmonize cross-sectoral environmental protection and development needs in a climate change scenario (e.g. agriculture & livestock, forestry, tourism, nature protection, energy, water, urban, infrastructure, mining) at scale. However, FLR and IWM planning tools are not disseminated and incorporated as planning tools in all sectoral ministries beyond MEDD[9] and MEAH[10]. the existing multi-sectoral planning schemes at the regional, landscape and communal levels (e.g. SRA, SAIP, SAC[11]) and coordination platforms at national and regional levels (e.g. National Forest and Landscape Committee - NFLRC, Regional Environmental Unit - CER[12]) lack capacity, cross-sectoral buying, and decision-support mechanisms to address trade-offs among sectoral development needs to reach consensual FLR and IWP landscape plans and the prioritization of sustainable land use/management practices. Few examples exist in terms of integrated landscape planning guidelines (e.g. FLR ROAM tool[13]; PAGDP[14]) but its effective application in the field is still marginal and it faces numerous difficulties of effective multi-actor participation and consensus. For instance, this is the case in the Fandriana-Vonzondro Forest Corridor (COFAV) in central-eastern Madagascar (the latter is partly included in the target landscapes) that face challenges in harmonizing plans and interventions across the multiple regions and sectors involved in the management of the forest landscapes. The regional directorates in charge of different development sectors need to play a fundamental role to ensure full collaboration, synergy or complementarity with other regional public entities such as the department of commerce, industry, public works, transport, etc, as well as with the private sector actors.

? Weak legal framework:

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National policies for agriculture and forest commodities supply chains are still weak in terms of supporting the environmental and social performance improvement and access to export markets around green/ethic certified products from good agriculture practices.

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Tenure governance laws (e.g. GELOSE/GCF laws) lack the required guidelines and accompanying decrees for their effective implementation, which makes it difficult: (i) transparent hiring procedures, respectful and inclusive of pre-existing uses / users in the assigned area (e.g. direct users in the assigned areas that are not members of the approved tenure contracts, especially those that do not have historical customary rights in the target area, namely migrants); (ii) the development of sustainable management plans beyond coercive measures (required by the contracts) that do not harm the sustainable use and conservation of resources excluded from the contract and that do not entail modifications of the agro-ecosystem with negative impacts within the assigned area and on the landscape as a whole; (iii) the adoption of bylaws that regulate tenure contracts which are compatible with and help improve the existing community by-laws that govern the entire community, and are coherence with regulations for other uses (inside and outside of the assigned area) not included in the contract. Cross-sectoral issues, inclusiveness/tenure rights, etc.

The national policy framework on gender issues (National Policy for the Advancement of Women) fails to generate concrete gender strategies and requires revision to broaden from a purely women-focused issue to a ?gender equality? issue. The operationalization of the national social protection programs is still limited due to the absence of coordination mechanisms between national and regional levels.

? Limited inclusion of all potential beneficiaries: tenure contracts often leave out the most vulnerable population with limited access to information (limited dissemination of land tenure laws and contracting mechanisms in remote areas far from administrative centres; low literacy level) and limited capacity (low literacy level for reading and writing; absence of guidance/information to develop sustainable management plans for contracted uses/resources).

? Limited knowhow and capacity of decentralized public servants to guide community remembers: Staff from decentralized public services (as well as NGO and private sector) have limited or no knowledge about the existing policy instruments and economic incentives supporting decentralized community-based NRM, sustainable and climate-smart land use practices, and landscape-level planning processes. This prevents the necessary awareness raising and transfer of knowhow to local community members on the content of the laws, how to apply them effectively, how to access existing incentives, how to formulate by-laws in accordance with integrated landscape planning, BD conservation and sustainable development objectives, etc.

Barrier 4: Lack of effective solutions that demonstrate the cost-benefits of zero-deforestation and sustainable agriculture intensification and ecosystem services? restoration, and guide long-term long-term sustainable financing for ILMP.

? Insufficient availability of knowledge, capacities, and resources to effectively address landscape restoration priorities: The restoration of forest landscapes requires the joint application of a series of principles that increase the complexity of conventional afforestation interventions. In summary, the FLR principles are:

i) Identify restoration priorities throughout the landscape, based on the analysis of the root-causes of degradation and tailored to the local context. Appropriate restoration actions of a degraded site often fail in the long term by not taking into account and addressing at the same time the root causes of the degradation of that site and the connection of that site with the uses that take place in the rest of the landscape (e.g. altitudinal gradients and interactions between uses in the headwaters and lower areas of sub-watersheds).

ii) Involve and train all concerned stakeholders addressing the multiple functions to restore and their multiple expected benefits (environmental, social, and economic). On numerous occasions, the governance of forest landscape restoration does not ensure an effective participation of the different stakeholders, and prevents the selected intervention priorities from addressing the trade-offs between environmental and sectoral objectives, identifying the multiple functions/services to recover (e.g. different agro-silvo-pastoral productive functions responding to the diversity of interests of the different users, and compatible with the environmental and biodiversity conservation functions), and the multiple benefits that provide improvements to the livelihoods of the different users of the territory.

iii) Develop innovative protocols for the production and use of the great diversity of native plant species based on adaptive management (test and continuously fine-tuning), and on the cost-benefit analysis that help define the rate of return of selected FLR interventions. Very often, the unavailability of plant material from native species (e.g. public and private nurseries usually produce seedling from very few species, most of them exotic ones), the lack of tools for selecting suitable plant species under climate change scenarios (e.g. lack of modelling of CC impacts on natural habitats and species), the

lack of production protocols for climate-adaptive, high quality plant material (e.g. the ecology of most native species is poorly known, and high-quality seeds/seedlings have not been produced in nurseries and used in restoration work in most cases), and the lack of effective climate-adaptive restoration techniques (e.g. the wrong selection of planting periods under a CC scenario; inadequate measures for seedling transferring to the field; unproper and water-inefficient soil preparation/planting operations).

? Unconnected, incomplete and insufficient financing plan to deliver landscape restoration results in the long-term: In order to design financing strategies for forest landscape restoration, a mix of funding sources should be addressed, as for instance: climate finance, development cooperation, environmental funds, non-governmental funding, national budgets and resources, the private sector and non-traditional funding (e.g. crowdfunding)[15]. The lack of inclusion of an economic analysis linked to each of the interventions of the landscape restoration plans and the return they produce (environmental, social and economic) prevents us from demonstrating the interest that these interventions have in local socio-economic development (e.g. sustainable and green value chain development), in the improvement of public policies and in the potential of private investments linked to different markets (e.g. carbon market, zero-deforestation value chains; etc).

(i) Baseline scenario and any associated baseline projects

A. Baseline policies

Madagascar has a whole set of legal texts, regulations and strategic policy frameworks on responsible/decentralized governance rights, spatial planning, landscape restoration, sustainable and climate-adaptive natural resources management, value chain development and nature protection, that are considered in the project design. Annex O provides detailed information on relevant policy frameworks for the project implementation. The following table summarizes the identified policies, their relevance and lin with the project:

Policy	Theme	Linkage with the project
Environmental Charter (amended by law 2015- 003 of 19 February 2015)	Sets the rules and fundamental principles for the management of the environment, recognizing the very strong links between poverty reduction and the protection of the environment, and the central role of decentralization in ensuring SNRM[16] and a balanced local development.	General policy framework in which the objectives and actions of the project are framed.

General Policy of the State (PGE) and Madagascar Emergency Initiative (IEM 2019-2023)	Establishes comprehensive and sustainable development based on inclusive growth to combat poverty, and integrating key dimensions - gender, social, environmental, territorial, and new technologies. Relevant policy areas: (i) development of innovative tenure system; (ii) effective decentralization; (iii) ecological balance restoration, SNRM, watershed protection, green economic development; (iv) renewable energy sources to replace charcoal and fuelwood; (v) PPP[17], enhancing private sector and access to int. markets; (vi) professionalization & entrepreneurship among women and youth; (vii) applied research for development.	These policies address key challenges for the GEF project implementation.
National environmental action plan for sustainable development (PANEDD: 2021-2030)	It guides next 10 years? activities implemented in Madagascar on environment and SNRM, through (i) decentralized/transferred SNRM & tenure governance; (ii) CC[18] adapted FLR[19][19] plans and measures; (iii) green economy and cross-sectoral environmental integration.	Policy framework in which the objectives and actions of the project are framed.
GELOSE[20][20] law (1996), and GCF[21][21] law (2000)	Legal framework to transfer resource management rights from the state to community-based natural resources management organizations (COBA or VOI[22][22]) through contracts, management plans and local by-laws (known as dina in Madagascar).	Key policy frameworks guiding GEF project interventions on the transfer of NRM and tenure rights to the targeted community-based organizations involved in VC[23][23] development of wood and NTFPs[24][24] in forest land.
Improved 2015 Tenure Policy	Prioritizes local transferring of land affairs through communal land offices, decentralized services, development of specific statutes and designation of landscape areas for local users? interventions on forest restoration and decentralized CBNRM[25][25].	Key policy frameworks guiding GEF project interventions on the transfer of NRM and tenure rights to the targeted community-based organizations involved in VC development of wood and NTFPs in forest land.

Law No. 2015-051 (2016), on Orientation of Regional Planning	Establishes the general legal framework for cross-sectoral land use planning (land & water management, rural development, BD conservation, town & housing planning, sanitation, mining & industry, infrastructures, etc.). Defines land use planning tools at national, regional (SRAT[26][26]), inter-municipal (SAIC[27][27]), municipal (SAC[28][28]). sets up the Territorial Observatory, an independent body responsible in particular monitoring of compliance with territorial planning tools.	Key policy framework guiding GEF project interventions on integrated landscape management planning in the target landscapes.
Policy for the Development of Watersheds and Irrigated Perimeters (DWIP)	Objectives: sustainable improvement of living conditions and incomes of rural populations in the watersheds and better valuation and preservation of natural resources for the benefit of the country. FLR implementation is articulated with DWIP axis: (A1) "Rapid and sustainable intensification of production"; (A3) "infrastructure sustainability and rational use of natural resources".	Key policy framework guiding GEF project interventions on integrated landscape management planning in the target landscapes.
Forest policy vision for the period 2016-2030	Objectives: (i) ensure effective SFM[29][29], (ii) strengthen decentralized management and coordination of all concerned actors, and (iii) set up a sustainable financing system. The **2017 Forest Policy, Decree n? 2017-376** guides actions to stop deforestation and forest degradation and to support SFM, highlighting the need to improve governance, and build the capacity of the forestry services.	Key policy framework guiding the GEF project interventions on community-based SFM and forest restoration, NTFP VC and PES[30][30] financing mechanism.
National policy on Land Degradation Neutrality (LDN) (2015-2030) and National Voluntary LDN Target Setting (SDG 15, target 15.3).	Targets: (i) reduce conversion of natural ecosystems and restore 400,000 ha of landscapes by 2025; (ii) improve productivity and carbon stocks in cultivated and grazing areas with 200,000 ha under SLM[31][31] by 2025; (iii) reduce pasture fires by 2030; (iv) mobilize finance to promote research on SLM in relation to BD[32][32] and CC. Strong vehicle for fostering policy coherence and actions by aligning LDN targets, other SDGs[33][33], INDC, NBSAP[34][34], and other national commitments (e.g. restoration of 4 million ha of degraded land under the AFR100/Bonn Challenge).	The GEF project will contribute to the achievement of the National LDN targets.

National Strategy on the Restoration of Forest Landscapes and Green Infrastructures (NSFLR) (2017 - 2030)	Identifies land degradation hotspots in the country and priority intervention types to restore and transform large areas of deforested and degraded lands into resilient and multifunctional landscapes while contributing to the local and national economy. Responds to the national commitment to AFR100 to restore 4 M ha by 2030. It is aligned with NPE, National REDD+ Strategy, new forest policy, LPAEP, LPA, GELOSE/GCF decentralized laws, NBSAP, LDN targets, and INDC[35][35].	The GEF project?s priority interventions on forest and land restoration are aligned with the NSFLR prioritization in the target landscapes and follows NSFLR guidance in terms of forest species selection, restoration methodologies and tools.
New Energy Policy 2015-2030 (NPE[36][36])	Considers wood energy as a priority sub-sector due to its major contribution to satisfy households? (HH) energy needs in Madagascar. 2030 targets: forestation of 36,000-40,000 ha/yr as from 2018; 50% wood energy needs covered by legal and sustainable wood sources; the use of green technologies for legal/sustainable charcoal production with 20% yield increase; improved wood stoves adopted by 70% HHs. Its implementation instrument **(SNABE 2017-2030[37][37])** has 3 objectives: 1) protection & sustainable management of wood resources; 2) stable and sufficient supply of good quality and less costly wood energy; 3) balancing supply and demand through VC improvement at the production, processing and marketing levels, and demand reduction (improved wood stoves; other energy sources). SNABE specifically **addresses higher women-led HHs vulnerability**, and help improve women's access to information, planning and decision-making on wood energy supply.	The GEF project will support sustainable wood VC development and the use of efficient/alternative energy technologies (with a gender focus) for food production (e.g. the processing, drying and storing of coffee, rice and other targeted commodities), cooking and heating.

LPAEP and PSAEP/PNIA for the period 2016-2020[38][38]	Alignment with COMESA[39][39] regional priorities: (i) land & water management, (ii) access to markets, (iii) food supply and (iv) agricultural research. PSAEP orientations: (a) economic growth ensured by the private sector through the development of agricultural investment zones, PPP, and export sectors, (b) poverty reduction with productivity improvement and income generation among rural HHs.	The GEF project is well aligned with LPAEP and PSAEP/PNIA priorities, in terms of (i) soil and water improvement in coffee intercropping and rice/legume rotation systems through SRI/SRA/CA practices; (ii) PPP involving inclusive agribusiness contracts between producers and buyer companies, enhancing high quality/diversified productivity and income improvement among vulnerable HHs, and with special focus on the international fair-trade/organic/specialty coffee international market segment.
National Rice Development Strategy (NRDS)	Operationalization of the Rice Development Policy (PDR). Components: (i) investment in production and post-harvesting infrastructure; (ii) financial support for seeds, agro-chemicals, production, harvesting and stocking equipment/machinery; (iii) PPP financial support for extension services; (iv) development of rice VC micro-enterprises (youth focus) with special attention to post-harvesting, entrepreneurship, business plans, marketing, access to finance; (v) VC platform support; (vi) National and international marketing infrastructure and structuring. Objectives: doubling paddy production using a wide range of suitable varieties; systematic dissemination of SRI and SRA production systems; implementation of climate-adaptive measures; seed production; landscape preservation (environment & sust. dev).	Main policy framework guiding GEF project interventions on sustainable intensification of rice production in the target landscapes.

National Strategy on Rice Mechanization (SNMR) (2016-2025)	Objectives: (i) improve producers? access to equipment through users? associations; (ii) reinforce VC private sector actors in charge of production equipment; (iii) institutional and financial support of public institutions in charge of agriculture mechanization (research and prescriptions for each agroclimatic and social context; actors? platform; communication, homologation & certification, training, financial services).	Main policy framework guiding GEF project interventions on sustainable intensification of rice production in the target landscapes through granting support for suitable equipment manufacturing.
Integrated Platform for steering the rice sector (PCP?Riz) set up in 2005	Strengthens close cooperation between the public and private sector by setting the common objective to develop a long?term rice sector in Madagascar. Mission: meetings, collection and exchange of information between direct and indirect actors; propose policy improvements; monitor policy implementation; provide guidance for necessary actions; play an interface role between the State, the private sector, civil society and technical and financial partners.	The GEF project will support target partners to become active in the Platform and will help enhance the platform?s functioning in the target regions.
National Action Plan for the Coffee Sector drawn up in 2017	Part of Madagascar's National Green Export Examination (ENEV). Considers all VC links, from planting to marketing, governance and the institutional system.	Main policy framework guiding GEF project interventions on sustainable intensification of coffee production in the target landscapes.
National Committee for Coffee Marketing or *Comit? National de Commercialisation du Cafe* (CNCC).	Main organization governing coffee exports. Develops activities aimed at supporting the production of Robusta coffee and developing Arabica coffee plantations. Benefits from the technical support of the Horticultural Technical Centre of Tamatave (CTHT), in the field of perennial crops (coffee, vanilla, pepper, cloves and lychee).	The GEF project will support CNCC to become operative and will help enhance the active involvement of project coffee partners and beneficiaries in the platform?s functioning in the target regions.
Law N?. 10/2019 for the National Organic Sector Organization (2020)	Support the growth of organic exports and start promoting the development of its national organic market. Complementary legislation, including the national organic standard, and the first national organic strategy for organic agriculture, with its related action plans at national and regional levels, is under development. recognizes ?Participatory Guarantee Systems? (PGS) as a valid tool for certification of domestic supplies (domestic market), which makes it more affordable and appropriate for small producers than third party certification schemes. Capacity building already implemented by IFOAM-Organics International with GIZ support.	Key policy framework to facilitate all project interventions on coffee and other VC marketing at national and international levels.

Farmer Services Strategy (SSA)	Global and coherent vision for the agricultural services, clarifying roles, defining strategic axes and mid-term priorities towards the establishment of partnerships involving the State, producer organizations, technical and financial partners (?Partnership Charter?). Framework tool for Agricultural enterprises (EA) through the groupings of farmers in the form of producer organizations (PO). It highlights POs? role vis-?-vis their members, in particular the provision of local services, and representation and defense of the interests of the profession.	POs are key actors in the GEF project VC development and marketing interventions. SSA will guide project interventions on POs? organization, training and role as extension service providers.
1995 Seed Act and **2008 National Seed Strategy Document (NSSD)**	Outlines a division of responsibilities between the public and private sector. It established the National Agency for Official Seed and Plants Control (ANCOS) as the regulating entity for seeds in Madagascar. It partnered with the Malagasy Association for the Promotion of Seeds to promote quality seeds and seed policy implementation.	NSSD will guide GEF project interventions on community seed banks and community nurseries for the production of high-quality, climate-adapted seeds and seedlings.
Export Strategy for Industry and Services (SEMIS) (2016)	It aims to diversify products, promote inclusive and efficient value chains led by local champions as well as the creation of added value and promoting a strong image of Malagasy production.	SEMIS will guide GEF project interventions on coffee VC development and marketing.
National Biodiversity Strategy and Action Plan (NBSAP 2015-2025)	Strategic goals: (i) Awareness & knowledge-sharing; (ii) reduction of pressures through good governance and rational management; (iii) creation and management of protected areas; (iv) strengthening BD benefits and ecosystem services (e.g. restoration of at least 15 percent of degraded areas, implementation of the Nagoya Protocol); (v) strengthening NBSAP implementation through participatory planning, knowledge management and capacity building, and the setting up a system to protect traditional practices and local knowledge.	GEF project interventions are aligned with the NBSAP strategic goals and will enhance synergies with LDN targets, INDC, and NSFLR. The GEF project restoration interventions will contribute to the NBSAP restoration goals.
National Tourism Plan (2005)	One of the plan?s specific objectives is to ensure that tourism, and particularly ecotourism, leverages direct and sustainable benefits for the village communities while preserving the natural environment.	The GEF project will build on the Tourism Plan to help link VC development of NTFPs (e.g. wild silk, basketry, honey) with the ecotourism potential of the target landscapes.

Intended Nationally Determined Contribution (INDC)	2030 CC mitigation target: 14% GHG emissions reduction and 32% C-seq. compared to the BAU scenario. Priority actions by 2030: Renewable energy accessibility from 39% to 79%; adoption of improved stoves by 50% HHs; large-scale implementation of conservation agriculture (CA) and other climate-smart agriculture (CSA) technologies, with paddy production maintained at 4 t/ha; increase 5,000 ha/yr of agroforestry as from 2018; 55,000 ha of restored native forests & mangroves; promotion of REDD+; CC Adaptation mainstreaming in all strategic policy documents and its application in sectoral policies.	The GEF project contributes to the INDC targets in terms of: (i) higher use of renewable energy & efficient use of wood by the target HHs and producers; (ii) upscaling CA and other CSA systems and technologies for rice, coffee and other complementary crops; (iii) expand agroforestry in the target landscapes; (iv) restore native forests; (v) promote PES schemes with a REDD+ focus; (vi) cross-sectoral policy improvement and synergies.
National REDD+ Strategy (2018)	Strategic directions: (i) improve political, institutional and financial framework, necessary for good governance of the resources and the implementation of REDD+; (ii) support land use planning and utilization; (iii) promote sustainable management and valorization of forest resources; (iv) improve living conditions of local communities through alternatives to unsustainable agricultural practices and utilization of fuel wood. Regional REDD+ priorities down to the municipal level and measures to be validated by regional REDD+ platforms, before being integrated into land planning tools.	GEF project interventions on forest restoration, and avoided deforestation through the sustainable intensification of rice production in existing farmland areas, and the effective production and use of firewood, directly contribute to the National REDD+ Strategy.
National Policy for the Advancement of Women (2000-2015)	Under revision to broaden its scope from a purely women-focused issue to a ?gender equality? issue. It will align with selected SDGs.	All GEF project interventions will be aligned with a project Gender Action Plan and will support the implementation and improvement of the national and decentralized gender policy frameworks.

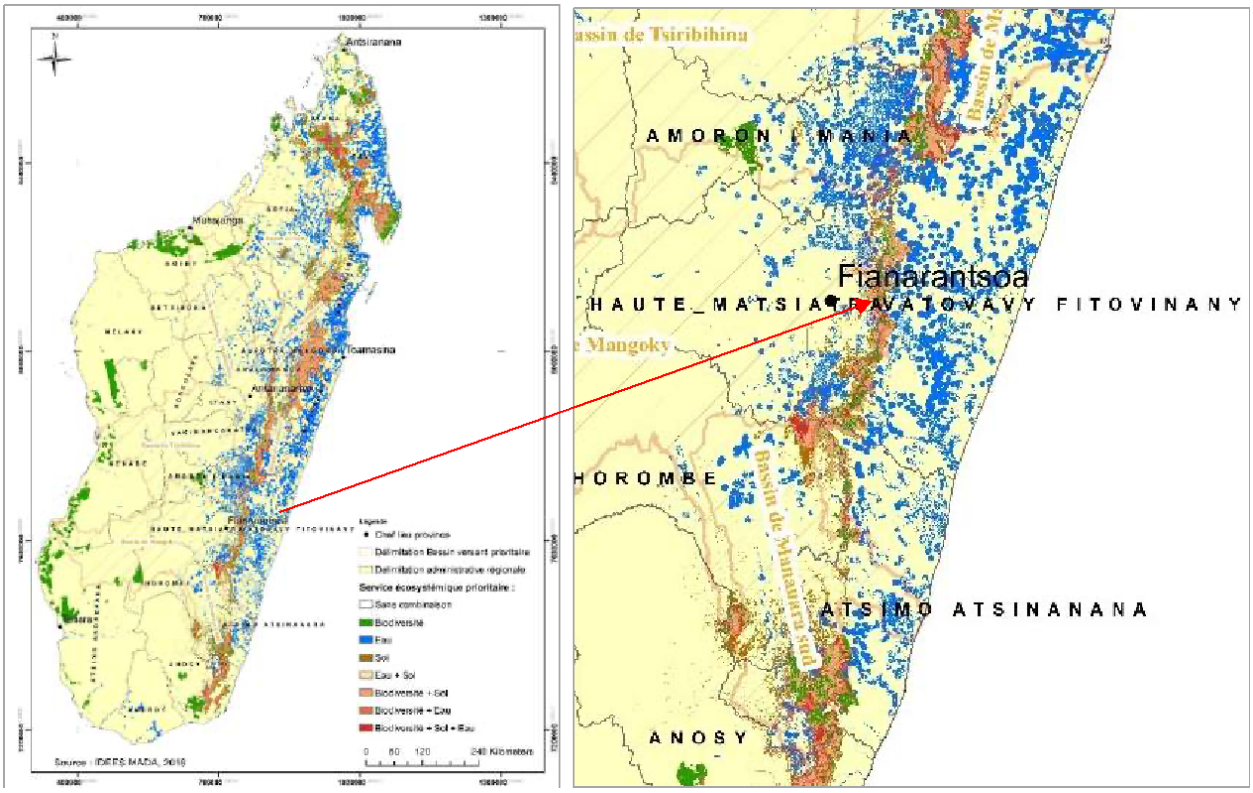
B. Baseline knowhow by component area

Integrated Landscape Management Planning & Forest Landscape Restoration

FLR planning and implementation system and technologies: The National FLR Strategy has prioritized national-wide degraded areas for FLR implementation, defining the type of ecosystem

services (ES) to be restored (Figure 7). In the case of the target regions, forest restoration focuses on biodiversity, soil and water inside protected areas, and mainly on water ES in the productive landscape. The Strategy also defines the strategic directions around four axes: A1) to ensure good governance for FLR implementation; A2) to ensure coherence among multi-sectoral, integrated landscape planning tools at regional, landscape and communal levels (e.g. SRAT, SAIP, SAC[40][40]); A3) to make available technical measures for upscaling FLR interventions; A4) to establish a sustainable financing mechanism for the long-term FLR implementation supporting community resilience, biodiversity and land degradation neutrality[41][41]. includes guidelines on FLR priority interventions and implementation costs (Table 4). The FLR Strategy has defined the following priority restoration options: (i) forestation of degraded open areas; (ii) restoration of degraded forests; (iii) agroforestry; management of large-scale pine plantations; (iv) mangroves restoration. Moreover, the Strategy has developed a handbook ?*Guide of species for the restoration of forest landscapes*? with lists of potential plant species for restoration actions that are suitable for four ecoregions (East Ecoregion, West Ecoregion, South Ecoregion, Mangrove Ecoregion). The document includes a technical sheet for each species, which indicates: (i) Type of FLR intervention to be used; (ii) priority ecosystem services provided; (iii) restoration technique; (iv) species ecology; (v) plant production protocol; (vi) planting techniques and species behaviour; (vii) socio-economic values. The Strategy has also developed business models for a number of FLR-related VCs (e.g. spices and essential oils; wood sawing; charcoal and lumber; fish products) as a way to attract private funding to match the costs to achieve the AFR100 national target. The internal rate of return is very high, especially for spices/essential oils (40.9 percent), fish products (23.4 percent) and saw wood (22.5 percent).

Figure 9. Priority areas for FLR in the target regions and type of ecosystem services to be restored[3]



The Strategy describes the type of intervention for each priority restoration option, a cost-benefit analysis and the potential link with value chain development, as summarized in the following table 4 (except for mangroves, which are not considered in this project):

Table 7. National FLR Strategy: Restoration priorities and costs

Item	Forestation of degraded land	Restoration of degraded natural F	Agroforestry restoration	Restoration & management of degraded pine plantations

Location & cover (ha)	Grasslands (3.8 M ha)	7 M ha	0.5 M ha	Central plateau (89,000 ha) 12 public plantations (*Pinus patula* and *P. kesiya*) in Haute Matsiatra. Pine plantations in Alaotra-Mangoro managed by the State Company Fanalamanga.
Tenure	Public, communal and private	Public, under NRM transfer contracts or not.	Public, communal and private	Public
Users	Private and communities. Possibility for land title certificate	Private, communities and CBNRM associations	Private. Possibility for land title certificate	Private, associations, communities. Possibility for land title certificate
Type of intervention	Planting of tree species suitable for bioenergy; firebreak management. How: *individual village-level reforestation* (IVLR)	Temporary fencing and enrichment planting with native species. Firebreak management and grazing control.	Planting of woody and non-woody species.	Assisted natural regeneration. Firebreak management.

Species		*Eucalyptus camaldulensis, citriodora, robusta, etc., Acacia a? phyllodes, A. mangium, A. auriculiformis*	Native species included in the handbook ?*Guide of species for the restoration of forest landscapes*?	Clove, pepper, coffee, banana, citrus, litchi, cinnamon, vanilla. *Gliricidia sepium*, *Flemingia macrophylla* et *spp*., *Cajanus cajan*, *Inga edulis*, *Moringa oleifera*	No planting is foreseen, but just improved management of old plantations.
Investment cost/ha		? 400	? 82	? 509	? 877
Non-monetary cost/ha		? 181	? 235	? 1,824	-
Total cost		? 581	? 317	? 2,333	? 877
Actual revenues/ha		? 475	? 384	? 6,691	? 1,118
Carbon mitigation /20 Yr		259 MtCO2/ha	550 MtCO2/ha	103 MtCO2/ha	16 MtCO2/ha
Essential oils/spices VC dev.	Cost			? 2,333	
	Benefit			? 6,691	
	Group man. plot			10,000 ha	
Wood VC dev.	Cost	? 581			
	Benefit	? 475			
	Group man. plot	10,000 ha			

The New Forest Policy has adopted the watershed unit as the appropriate large-scale landscape unit for the sustainable and effective forest management and a more integrated vision of all actions. FLR

prioritization is defined within watersheds and sub-watersheds, as the territorial unit of functional and multisectoral landscape on which to plan FLR interventions. The watershed landscape unit has been used by several programs/projects that have carried out multisectoral integrated planning at the landscape level: (i) the sustainable landscape management plans[1] developed and successfully piloted in five landscapes in northern Madagascar[2] under the AFD/WB/GEF financed PADAP[3] project (2017-2022), which follows the FLR principles defined by the Global FLR partnership; (ii) the UNDP GEF/APAA landscape project for the conservation and management of threatened BD in Atsimo Andrefana region; (iii) the WWF FLR initiative in the moist tropical forests of the Fandriana-Marolambo Landscape in Amoron?i Mania region, and (iv) WB/LAUREL Land Use Planning for Enhanced Resilience of Landscapes. These units present themselves today as landscape planning units which articulate the various intersectoral interventions, particularly in terms of agriculture, land use planning and sustainable management of the environment.

In the framework of the NSFLR, the government has implemented a number of forest restoration interventions with the support of international aid agencies, NGOs and research organizations. The project will build on the lessons learned on FLR restoration interventions provided by a number of successful initiatives, namely:

Table 8. FLR activities in Madagascar

Partner	Interventions
MEDD & GIZ/F4F (Forest for Future)	On-going (2020-2025): Boeny (Irodo watershed) and DIANA (Ankarafantsika watershed) regions, central level ? Reforestation, bambou planting, raffia planting ? Revitalization and support of the FLR national platform ? Gender approach (under the Global project on forest landscape restoration and good governance in the forest sector)

MEDD & GIZ/PAGE	Support in and around protected areas PAGE 1 ? ended (2015-2020): Diana, Boeny and Atsimo Andrefana regions and in central-level ? Regional and municipal spatial planning by considering themes aimed to reduce deforestation and restore landscapes and forests ? Individual village-level reforestation (RVI) for wood energy: Diana region: 9,000 ha; Boeny region: 600 ha; Atsimo Andefana region: 480 ha (with land security) ? Mangrove restoration: 290 ha ? 980,000 ha of natural forests protected/transferred with local community ? Support of 7 value chains: Honey, green wood energy, improved stove, timber, wild silk in mangroves, raffia, tourism; integrated into FLR pilot projects ? Gender approach (34.7% of beneficiaries are women) ? Implementation of the FLR national platform PAGE 2 - On-going (2020-2023) ? Sustainable management of 106,000 ha of forests ? Value chain development: pink pepper, cashew, honey, timber, green wood energy, moringa ? Gender approach

MINAE& KfW/PLAE (erosion control program)	Ended ? PLAE I (1998-2004) and PLAE II (2005-2013): Watershed erosion control (5 irrigated rice fields in Boeny, Atsimo Andrefana, Amoron?I Mania, Diana and Sava regions), reforestation of 3,500 ha for protection and 1,500 ha for firewood (Boeny & Diana: PLAE II) ? PLAE III (2014-2019): 9,500 ha of individual village-level reforestation (RVI) for wood energy (75%) and erosion control (25%) (Boeny, Betsiboka regions) On-going ? PLAE IV (2017-2022): 6,000 ha of RVI for wood energy (75%) and erosion control (25%) Sofia, Amoron?i Mania, Matsiatra Ambony, Ihorombe regions) ? PLAE V (2019-2023): 7,180 ha FLR including 1,140 ha RVI, communal forests, pasture (DIANA, Boeny, Betsiboka regions): ? 6,200 ha ? Planting requires tenure certificate, which has slowed down the implementation process Foreseen ? PLAE VI (2023-?): RVI for wood energy, erosion control, pasture
MINAE & WB	Ended ? National Programme ?Irrigated Perimeters in Watersheds? targeting 17 sub-watersheds in Itasy, Sava, Boeny, and Alaotra. ? 2,351 ha with the planting of exotic species (eucalyptus and acacia), that did not followed the Global FLR principles.
EU	On-going ? 10,000 ha of reforestation in Analamanga region (2015-2019)
USAID	Foreseen ? USD 40 M for FLR, namely natural forests? restoration.
WCS	On-going ? Natural humid forest restoration in Masoala National Park: 120 ha (2005-2015)

WWF	Ended ? Holistic FLR interventions, following global FLR principles ? Natural forest restoration in COMATSA Corridor (Diana Sava) and ? 13 years? experience of FLR in Fandriana Marolambo: 50 tree nurseries locally managed, 100 native plant species produced, 6,786 ha under active/passive restoration, 51,743 ha under management transfer contracts with COBAs, 95,063 ha officially protected. ? Mangrove?s restoration in Morondava (western Madagascar).
CI	On-going ? Carbon REDD+ projects in CAZ Corridor Ankeniheny-Zahamena and COFAV. ? Forest restoration interventions under Clean Development Mechanism. ? Involves COBA under GELOSE and GCF laws.
CIRAD	Ended ? 10 years intervention in the corridor Ankeniheny-Zahamena CAZ ? Sustainable natural forest management; small scale research interventions.
MBG (Missouri Botanical Garden)	On-going ? Scientific platform for FLR in Madagascar with regular technical meetings. ? Local studies.
PNUD/FAO	Ended ? Restoration of tree savanna (savoka).

A number of NGOs have implemented forest restoration interventions in the target landscapes:

? Tandavanala NGO, in the framework of several projects financed by Korean Carbon Management, UN Environment and WWF, has supported the establishment of at least 5 community-based tree nurseries for the production of native tree species and have supported community-based planting of about 150,000 seedlings in the target landscapes. The NGOs Ny Tanintsika and Adra are also active in forest restoration interventions in the target landscapes.

? The NGOs Ny Tanintsika and Feedback Madagascar have worked actively with local communities on community-based restoration of the tapia woodlands (*Uapaca bojeri*) in the central highlands in the target region Amoron?i Mania, and the sustainable production and marketing of wild

silk produced by the moth *Borocera cajani* - endemic to Madagascar - primarily found in these woodlands.

? The partner organization OmniVerdi enterprise, based in Toliara (Atsimo Andrefana region) has a tree nursery for the production of high-quality plant material (seeds and seedlings) of more than 50 native species, many of them included in the IUCN Red List. It has developed effective planting techniques to increase soil water storage and seedling survival, already applied in forest restoration interventions in the Mikea, Ranobe and Zombitse forests. It is also active in biochar production from savanna grasses to help reduce pressure on forest biomass, being used for both bioenergy and the improvement of agriculture soils.

? FOFIFA research station, based in Fianarantsoa, and the Kianjavato Field Research Station with ex situ collection of Coffea spp conservation in Kianjavato (Vatovavy region, COFAV corridor) has solid experience on the conservation and sustainable management of forest genetic resources (e.g. vast ex-situ collection of wild coffee species), and the development of climate-adapted *Robusta* coffee crop varieties.

Sustainable and climate-adaptive rice and crop diversification production practices

In response to the land degradation, deforestation and yield losses caused by maladaptive rice production practices on the Malagasy mountain slopes under unpredictable rainfall conditions and higher frequency of cyclones, sustainable and climate-adaptive cropping systems and rice varieties have been designed through applied research and tested by practitioners in several regions of the country. The INDC priority actions on climate change adaptation and mitigation on agriculture production include: (i) the large-scale implementation of Conservation Agriculture (CA) and other climate-smart agriculture (CSA) agronomic systems and technologies (e.g. combination of watershed management, selected/adapted varieties, locally-produced compost, rehabilitation of hydro-agriculture infrastructure, among others); (ii) the large-scale dissemination of intensive/improved rice farming techniques; and (iii) the large-scale adoption of agroforestry, including tree crops dissemination (5,000 ha/yr as from 2018). Two platforms lead CA and CSA activities in Madagascar: *Groupement Semis Direct de Madagascar* ? direct seeding group of Madagascar (GSDM) is the focal point of promoting CA in Madagascar; the National Conservation Agriculture Task Force (NCATF) is the focal point for national coordination of all actions on CSA and for broadening the area of intervention to CSA. These two platforms promote CA/CSA at both institutional and operational level.

Climate-adaptive species and varieties development

FOFIFA focuses on improving rice, maize, oil- seeds (groundnut), legumes (beans, voandzou, Bambara groundnut), vegetable crops and export crops (coffee, vanilla, and pepper). CIRAD and FOFIFA have developed breeding programs for new rice varieties adapted to cold climate conditions in the highlands, with the registration of 6 new varieties[1]. JIRCAS[2], in collaboration with the National Centre for

Applied Research on Rural Development (FOFIFA) and the International Rice Research Institute (IRRI), has developed two new rice varieties (FyVary32 and FyVary85), which have been registered in Madagascar on November 4, 2021. Both varieties show excellent productivity even in environments where nutrients from soil and fertilizer are scarce, which is a problem in paddy rice cultivation in Madagascar

FOFIFA Kianjavato Research Centre has undertaken crosses between wild and cultivated coffee trees resulting in: (i) Multiple hybrids, (ii) A hybrid between Arabica and Robusta called Arabusta; (iii) an exclusive Malagasy variety Ratelo (GCA) from crosses between *Coffea canephora, C. eugenioides* and *C. arabica*.

Plant diversification through intercropping and crop rotation is one of the main ways to ecologically intensify agroecosystems to improve their sustainability and resilience. Rotations and/or a mixture of crops can mitigate pest and weed infestation, reduce diseases, and improve soil fertility and crop productivity. Research in rainfed rice production under short rotation in the Malagasy highlands, has provided very positive results regarding the importance of the selection and adaptation of the crop species in rotation to the context and objectives of the farmers, to ensure greater production, soil improvement, reduction of weeds and pests, and cost reduction[3]. The legume mixture (velvet bean and crotalaria) rainfed rice rotation system had a significant and positive effect on field management costs reduction, rice growth, N content and yield, soil N content, weed and nematode control, and the enrichment of the soil with large quantity of N-rich residues for the following rice crop. The rotation systems with just one legume (groundnut) and with a cereal-legume mixture, also produced higher rice yields than when rainfed rice was grown alone, but weed biomass remained high due to minimal competition with weeds during the crop rotation cycle, and nematode control was limited as both sorghum and cowpea are host plants for nematodes. The choice of species is thus crucial to optimize ecosystem functions adapted to farmers? context and objectives.

Conservation agriculture (CA) - the combined use of minimum soil disturbance under no-till or mini-till, permanent soil cover using crop residues or by growing plants, and crop rotations ? has been promoted during the last 15 years in Madagascar to limit soil erosion and fertility loss, and to improve the resilience of the upland crops to climatic risks (e.g. erratic rainfalls, higher temperatures and drought). Rice yields under CA are not significantly improved but global production has doubled with the suppression of fallow over a 10-year period. When CA maintains soil fertility with good quality mulching and appropriate manure (to compensate nutrients exports), then continuous and regular production is highly appreciated by local farmers. A second advantage perceived by local farmers is the possibility to continuously crop cereals (rice/maize) and legumes (peanut/cowpea/rice beans/...) in association with better economic output than the usual sweet potatoes and cassava at the end of the crop cycle. Crop diversification under CA also helped modify rice blast (*Magnaporthe oryzae*) life cycle with the introduction of non-host or repulsive plants in the cropping system or with the improvement of crop tolerance through better crop nutrition. According to research in Lake Alaotra region, mulching with off-season crop residues (namely legumes such as stylosanthes and dolichos intercropped with maize) under CA systems can also significantly control weed emergence in rice

fields if smallholder farmers (unable to afford the cost of herbicides) manage to increase the amount of residues retained in the field up to 10 Mg/ha[4].

Sustainable intensification of rice production - Rice remains of critical importance to the culture and food security of communities living in the target areas, hence agricultural solutions that improve soil quality and crop yields while minimizing land degradation are critical. Two sustainable intensification systems for rice production are applied in Madagascar:

Improved Rice System or Syste?me de Riziculture Ame?liore?e (SRA) is an improvement upon conventional paddy production that encourages unidirectional rows (as opposed to a grid) of seedlings of less than one month old, external inputs such as fertilizer (either organic or inorganic), and crop rotation. SRA may also include use of mechanical weeding tools and the use of improved rice varieties.

System of Rice Intensification (SRI) is an irrigated, lowland, permanent method of rice production developed in Madagascar highlands (1970s-80s), that comprises a set of practices to increase yield productivity: carefully raising seedlings in a nursery, transplanting seedlings at 8-15 days, transplanting single seedlings in a 25cm grid pattern, alternating dry and wet periods in order to better aerate the soil, and applying organic fertilizer when possible. Since SRI aims to intensify yields on existing plots (in contrast with the plot rotations typically associated with *tavy*), SRI is viewed as a sustainable intensification strategy that help reduce deforestation and land degradation pressures. SRI principles and practices have been adapted for rainfed rice as well as for other crops, with yield increases and associated economic benefits.

The compound aim of SRI is to increase rice yields, dissuading farmers from clearing upland slopes for *tavy* farming and indirectly decreasing deforestation pressure. SRI is practiced in all 22 regions in Madagascar. Although SRI was invented over 25 years ago in Madagascar, there is still resistance to its dissemination. Similar to CA, SRI is a set of ?good practices? to increase rice yields, derived from careful observations, with adjustments made according to needs and conditions: *transplanting of younger 8-12 days old rice seedlings; transplanting only one seedling in each 25 cm square pattern to allow wider spacing between plants; alternating dry (aerobic) and wet (anaerobic) soil conditions without flooding; weeding regularly especially in early stages; substitute chemical fertilizers with compost (cheaper option for poor farmers) that enhances more soil nutrients and yields while there is ecological improvement*. SRI uses less water, less land preparation and less fertilizer, and the youngest and most widely spaced seedlings develop stronger roots and larger plants with heavier grains, thereby producing more grain per hectare while conserving water and reducing the environmental impact. This high yielding, low external input agronomic system has generated stunning increases in crop yields in smallholder farmers? fields, in a country like Madagascar where rice productivity is extremely low, and most HHs are unable to produce enough to cover their feed needs. However, adoption rates have been low, and disadoption rates among adopters have been high, which has prevented its wide diffusion throughout the country, despite the fact that this technology originated there. The increase in SRI yield reaches + 16% in situations combining a good water supply, fertile soils and organo-mineral

fertilization (situations found especially near markets). Without mineral fertilizer, which weakens the control, the gain reaches 30%. These variations reveal the possible interest of SRI for particular sectors such as organic farming, or for fertile but reducing soils, and its certain inadequacy for situations involving major limiting factors (infertile soils, early planting). Research in Haute Matsiatra Region involving farmers production under conventional paddy (control plots), SRA and SRI demonstrated low yield gain under SRA compared to control, and 16 percent yield increase under SRI which can increase up to 30% when production does not include fertilizers[5]. In the Ankeniheny-Zahamena Corridor (CAZ) of Central-Eastern Madagascar, 12 out of 164 rice producing farmers interviewed (52.3% male, 47.7% female with a median age of 40) reported that they employed SRI in their rice fields, other 7 attempted SRI but subsequently disadopted, other 14 were trained on SRI but never adopted, other 75 heard about SRI but had no experience, and the remaining 56 farmers had not heard about SRI at all at the time of the study[6]. In most cases, including 42 percent of SRI adopters, farmers partly rely on upland *tavy* as a climate risk management strategy (diversification of rice production systems to overcome cyclone flooding damages in lowland fields). The study concluded that despite recognition of significant rice yield increases as a result of SRI by all farmers exposed to SRI, the pattern of adoption was correlated to farmer?s access to education and training, and HH proximity to the villages where development agencies (e.g. GERP[7] and Peace Corps) providing training efforts were centred. Moreover, SRI adopters are farmers already using lowland rice fields with higher access to labour, who may be more prepared to adopt and succeed with SRI. However, SRI principles and practices have been adapted for rainfed rice as well as for other crops, with yield increases and associated economic benefits. Major SRI adoption constraints are seasonal liquidity (critical mismatch that demands SRI labour at a time when liquidity is low and labour efforts are high) and family labour constraints, as well as insufficient continuous training and technical advice to help farmers become acquainted with a quite complex management system. It would be relevant for the project to support farmer production groups or cooperatives and explore feasibility to share both labour and production and harvesting equipment as a SRI adaptation strategy at scale.

Farmers in Madagascar are adopting improved climate change resilient seed varieties that mature at a faster pace, at higher temperatures. For instance, the ASERECA[8] project ?Sustainable agricultural water productivity enhancement for improved food and nutrition security? implemented by FOFIFA has promoted the X265 early maturing rice variety under irrigation (15-20 days earlier than the common varieties) which has a good taste (market competitiveness), is drought-resilient, tolerant to blast diseases, and endures cold temperatures during the flowering sensitive stages of the crop in February. Participating farmers (about 104 women and 196 men) with on average 0.45 ha have planted X265 making use of sustainable agronomic practices, and have managed to increase and secure continuous yields (80% yield increases, and about 4.1t/ha) during several cropping seasons, becoming three months more food secure, and saving money (average income increase of USD 500/ha) to cover their basic needs, improve their equipment, and allowing them to have more time available to prepare for off-season crops (crop diversification strategy). The use of the Nepalese rice variety known as Tsipolatra or Chromrong Dan in several regions of Madagascar helped also increase rice yields from 2.5 to 4.8 t/ha during the last decade, with a positive impact in the fall of annual rice imports[9].

Irrigation innovation. IFAD (International Fund for Agriculture Development) has promoted, in partnership with *Agronomes et V?t?rinaires Sans Frionti?res*, the local manufacturing and village-level use of locally-adapted micro-irrigation system (MIS) and technologies and the use of natural fertilizers

and pesticides (SCAMPIS project) applied to vegetable crops. This has: (i) created new job opportunities in the manufacturing sector (MIS and pedal pumps using recycled plastic material (register innovation); (ii) enhanced the capacity of extension agents, has increased the productivity (more than 140 kg/100 m2 plot/cropping cycle representing a 119% increase), family income (more than USD 27/100 m2 plot representing a 150% increase) and family savings (USD 14 per 100 m2 plot every 4 weeks, representing an increase of 359%); (iii) reduced the time spent in irrigation by 65% on average; (iv) decreased expenditures on chemical pesticides by 88% (minus USD 2.34 per 100 m2 plot); (v) expanded the cropping season by more than 8 weeks; (vi) increased water saved (minus 14,200 litres per 100 m2 plot every 4 weeks, representing 53 % less of water consumption).

Digital services for agriculture production and climate-risk reduction

According to the World Bank?s Global Findex database, the number of adults living in rural Madagascar with a mobile money account tripled between 2014 and 2017, reaching 12 per cent. While modest, this growth demonstrates the contribution of mobile-based technology to Madagascar?s rural development as well as the level of untapped potential in the market.

Fruits: In 2017, the GSMA AgriTech programme facilitated a working arrangement between a mobile operator and Lecofruit, one of the largest vegetable buyers in Madagascar, directly sourcing from 15,000 smallholders? farmers. Both companies collaborated to develop a digital solution for farmer registration, procurement and mobile money payments in the green beans value chain. Lecofruits? service provides agribusinesses and farmers with digital, next day reporting on logistics, including transport to and from the collections and storage sites. This enables field agents to record and monitor crucial information including provenance and sale size from each farmer. Through instant verifications in the field (where the farmer confirms by replying to a message), both parties can agree on the weight of produce and subsequent payment owed. Farmers can then be paid directly by mobile money. This is a risk-free process and provides more security for both the farmer and the agribusiness. This digital process has two key benefits:

? Increased efficiency and reduced errors ? manual processes are time- and staff- intensive with a higher margin for errors. Through Lecofruit new process, green beans are weighed onsite and the provenance recorded and accepted digitally, leading to increased efficiency and fewer errors.

? Minimized security risk ? Lecofruit field staff are no longer required to carry or handle large amounts of cash to pay farmers in person, as farmers receive payments straight to their mobile money accounts.

After a two-year implementation period (2018-2019) a number of green bean farmers receive weekly mobile money payments during harvesting period. However, poor network connectivity can hinder the use of these digital tool and negatively affect user?s trust, farmers? illiteracy reduces digital awareness, and phone cost prevents a considerable proportion of farmers to access the system (Lecofruit and the mobile network operator - MNO) are considering offering farmers a financing scheme for mobile phones). The MNO should collaborate with nearby mobile money agents to ensure there is enough liquidity and frequently review its agents? distribution network to address any gap in the

implementation area. The agents are the face of the service and play a significant role in development trust amongst the farmers in the service.

Rice and vegetables: in the framework of *InfoRiZ* Project (France Development Fund/AFD funding), and *Agro-Sylviculture autour d?Antananarivo (ASA) project (EU funding)* two main Malagasy Market Information Systems (MIS), on rice and vegetable, have recently adopt mobile phone and radio to disseminate price information[10]. According to baseline surveys, market information needs (e.g. contacts of buyers, prices in production areas and in end-markets for collector-farmers, consumers? preferences for non-collector farmers) come after information needs on production techniques and input providers. Despite the hazards of reception, farmers have overwhelmingly approved the use of SMS for the dissemination of market information (97% for rice, 85% for vegetables) and wish to continue to be informed; either those that have received the SMS or not. But it is far from being the only possible way to disseminate prices.

In the two rice areas, radio programs were broadcasted through local radios during the same period as the SMS disseminations. They were more comprehensive than SMS, including the prices of the week, the trends compared to previous weeks, and some explanations or contextualization. Due to limited mobile penetration in the tested regions, several alternatives were proposed by farmers: 50% suggest billposting and/or face to face communication with farmer leaders (34%), field staff (16%) or traders (13%).

Identified constraints: (i) the use of mobile phone faces several technical constraints especially in the most remote areas. Despite a fast increase in recent years, the ownership of mobile phone is still not widespread among farmers; (ii) the very fast turnover of mobile phones and phone numbers? ownership makes mobile phone users? identification and conservation a main challenge; (iii) learning issues: farmers need to be familiar with the syntax used and understand the meaning of the message, then they must be confident in the quality of the content, and ultimately they must have the appropriate knowhow to turn elementary information into decision and action.

Climate-risk insurance

The global social enterprise Viamo, with a big team in Madagascar and partnering Airtel Madagascar, and its gamification partner, Peripheral Vision International (PVI) (https://www.pvinternational.org/), developed together with GIZ (PrAda project) an interactive mobile audio game to educate farmers on the concepts of microinsurance and climate change, and to boost uptake of the microinsurance product. It was officially launched by MINAE in 2018. Players walk through seven cropping seasons in a series of steps on listen-then-make a choice. In each season, the virtual farmers attend an annual agriculture fair, where the learning and decision- making are framed within conversational dialogue between peers and friends. Good choices are rewarded with a growing number of Zebus, Malagasy cows, rather than points or money, as it is a more culturally relevant form of game currency. Given the complexity of climate risk insurances, the game focuses first on climate change and how smallholders can react, with the concept of microinsurance only very gradually introduced. At the end of the game, players indicate if they want to be contacted to sign up for the climate risk microinsurance.

Gender

The Gender Action Learning System (GALS) community empowerment methodology that uses the principles of gender inclusion to improve the incomes, as well as the food and nutritional security of vulnerable people while respecting gender equity, has been piloted by IFAD under FORMAPROD and expanded under the Inclusive Agricultural Sector Development Program (DEFIS) in all the four target regions (Amoron?i Mania, Fitovinany, Vatovavy and Atsimo Atsinana).

VC development

A number of VC platforms already exist in different regions of Madagascar, with positive results in some cases, such as the: (i) the fuelwood platform in Diana region, and technically supported by GIZ/PAGE project, that brings together users and user organizations, civil society organizations, decentralized and deconcentrated administrative and technical services, and other development partners, that are committed to regional biomass energy plan and vision for the region; (ii) CRC-BEV that help structure the fuelwood VC, train members, organize fuelwood commercialization circuits involving producers and buyers which become shareholders of CRC-BEV, and provide added value to their members in terms of employment (mainly for women), community revenues, and shareholders? benefit sharing; (iii) the octopus fishery management informal platform (Comit? de Gestion de la P?che aux poulpes ? CGP) with no official fisheries management mandate that serves as an effective forum for engaging stakeholders and take decisions related to the management of periodic closures, the negotiation of prices, and the implementation of actions towards certification by the Marine Stewardship Council (MSC)?s ecolabel; (iv) the national platform for essential oils grouping 50 businesses; (v) the regional honey platform in Boeny region, promoting dialogue and concertation among VC actors, and supporting the development of quality and traceability norms meeting national and international standards; the platform has organized business events resulting in solid partnerships between producer associations and cooperatives and major buyer companies from the region, such as PARMACE and APIFICA MELLIFERA.

USAID has supported cooperative development in Madagascar, especially focusing on the vanilla sector in the north of the country. It has collaborated with McCormick and its Madagascar-based supplier to help the cooperatives meet the standards for Rainforest Alliance certification and has trained in 2020 thousands of cooperative members to attain this certification. The first cycle of certified vanilla yielded nearly $900,000 in sales and $261,000 of private sector investment from partners like McCormick. Cooperative members are putting less pressure on the forests, and with the Rainforest Alliance certification, the cooperatives are receiving a premium price from international buyers. Additionally, in the framework of the USAID project ?creating an Environment for Cooperative Expansion (CECE), the national ONI Cooperative (one of only a few registered worker co-ops in Madagascar, established in 2011 to promote sustainable agriculture and livestock development, and support cooperative and enterprise development) is providing coaching services to several agriculture cooperatives, including beef, zebu, dairy, spice, bee-keeping and other value chains.

Sangany Cafe?, a company that is active in the target regions (Atsimo Atsinanana, Fitovinany and Vatovavy), works to improve Robusta coffee production and quality in Madagascar, targeting European and domestic markets for high-quality green, roasted and wet-processed coffee. The main activities include improving production, processing and marketing of Robusta coffee (inter)nationally, benefitting 10,000 farmers. Main shareholders of Sangany Cafe? are Fair and Sustainable Participations BV, the Netherlands, and HERi Africa GmbH, Germany. Sangany got a USD 230,000 loan from the Common Fund for Commodities (CFC) in 2016, and succeeded in attracting a new shareholder, ZITAL SA based in Madagascar. Furthermore, Sangany Cafe? merged with Sangany Spices to make more efficient use of resources to increase production and improve quality of the traditional export crops in south-eastern Madagascar, targeting the same farmers who grow both coffee and spices. A partnership has been developed with the MFI CECAM, which offers credit to smallholders. These credits are guaranteed by delivery contracts to Sangany. A partnership with providers of mobile payment systems has been established for quick, reliable, fast and safe payment after delivery, linking the payment system to Sangany?s financial planning and monitoring system allowing efficient control and supervision of collection points and field staff. Sangany has set-up fully equipped collection points in the main production areas (warehouse, balances, humidity meters, computerized management system). In the coffee sector Sangany works towards achieving the criteria of the 4C Association and obtaining UTZ certification.

Covid-19

To address the spread of the pandemic in Madagascar, the European Union supported the pilot project CallvsCorona, as part of the Smart Development Fund. Designed by GIZ, in collaboration with the social enterprise Viamo, CallvsCorona leverages the power of simple mobile phones to provide free access to interactive audio content to marginalized and isolated populations, in their local languages. Awareness-raising messages, audio learning games and behavioural change messages are available 24/7 for the general population via the 3-2-1 Service, a national information hotline operated through pre-recorded audio messages using Interactive Voice Response. Using this system means even people without smartphones can access the content, and because they call and listen to audio messages, the content is also accessible for people that cannot read or write. As the hotline uses voice responses and not a call centre, it is available day and night and can handle thousands of calls at the same time. Another benefit is that CallvsCorona aims at reaching 40% women, and equipping women with information often has a multiplier effect with educating their families and communities.

CallvsCorona messages and information provide the opportunity for the GEF project to sensitize poor/remote rural housholds about the necessity and means to plan for seeds provision, crop diversification ? including off-season cropping and NTFPs? collection ? so as to maintain a minimal capacity for self-sufficiency against possible disconnection with markets, and a nutrition-rich diet for boosting their immunity.

C. Baseline projects and programs

The **Forest for Future (F4F) project (2020-2025)** funded by the German Federal Ministry for Economic Cooperation and Development (BMZ) via GIZ, as part of the SEWOH special initiative "ONE WORLD without hunger". Under the supervision of the MEDD, this project supports the Malagasy Government in the implementation of the National FLR Strategy and the self-commitment of the State to restore 4 million hectares of degraded land and forests by 2030 in the achievement of the objectives of the AFR100 Initiative. It is part of the global project for forest landscape restoration and good governance in the forest sector in Africa. The project combines landscape and forestry approaches and thus emphasizes the particular role of the forest in rural development in the context of food security.

The Forest4Future project will provide cofinancing to this FOLUR child project as detailed in section (v) below.

Forest4Future Components	Link with GEF project
Improving forest and landscape management governance through the development/updating of planning documents[1], the conduct of intersectoral dialogue meetings and the strengthening of the capacities of actors (at central level and in the two regions of intervention - Diana and Boeny - exchange visits with actors from other regions).	In the framework of Component 1, the GEF project will coordinate actions with Forest4Future in terms of FLR-related policy improvement and cross-sectoral dialogue, for which the GEF development actions of a policy influencing plan and revitalization of the FLR committee will be a main contribution.
The restoration of the ecological and productive functions of degraded forest landscapes by targeting 1600 ha (including 60.17 ha of reforestation and 2 ha of bamboo and raffia planting carried out so far with the mobilization of more than 1050 people).	The GEF will exchange knowhow and share experiences on forest restoration interventions in the target landscapes and Forest4Future target regions.
The improvement of the incomes of the local population adopting the FLR measures (1,700 targeted households) thanks to the professionalization of 5 value chains, for the benefit of 1,700 households, 12 incubators and small-medium enterprises (SMEs).	The GEF will exchange knowhow and share experiences on forest VC development supporting poor rural housholds in the target landscapes and Forest4Future target regions.

The program **?Conservation and sustainable use of natural resources?? (PAGE)** within the GIZ, financed by the BMZ and co-financed by the European Union aims to improve the protection and the sustainable and climate-resilient exploitation of natural resources in the protected areas and their peripheries during its phase 1 (PAGE 1: 2015-2020) and to disseminate these practices during its phase 2 (PAGE 2: 2020 ? 2023). This program supports key government and civil society actors, at the central level and in the regions of intervention (Diana, Boeny and Atsimo Andrefana for PAGE 1; Diana and Boeny for PAGE 2) to contribute to the sustainable management of natural resources in and around protected areas. The PAGE supports among others:

PAGE Interventions	Link with GEF Project
? Development of policy frameworks (e.g. NSFLR; updated forest policy; national forest master plan (PDFN); new energy policy; national wood energy supply strategy; national adaptation plan (NAP) to CC and the national action plan for the fight against climate change. climate change (PNACC), and capacity development. ? Territorial planning: 3 Regional Territorial Development Plans ? SRAT and 87 Communal Development Plan ? SAC in the regions of intervention (PAGE 1) considering reducing deforestation and restoring forests & landscapes.	The GEF project Component 1 will benefit from the new policy frameworks and spatial planning lessons learned produced by PAGE.
? Sustainable PA management, capacity development of PA managers, and NRM transfer to COBAs. ? Individual village-level reforestation ?RVI?. ? Sustainable VC development (e.g. honey, mangroves, raffia, tourism, timber), strengthening the technical capacities of concened actors.	GEF project Components 2 and 3 will benefit from PAGE lessons learned on COBA plans, RVI, and VC development on wood and NTFPs.

The **GIZ- funded Project ?Climate Change Adaptation of Value Chains? (PrAda) phase 1 (2017-2022) and phase 2 (2022-2025)** aims to improve access to climate services for value chain actors (groundnut, ginger, honey, onion, sea fishing, and a cluster of spices which consists of coffee, cloves, pepper and vanilla) in Atsimo Atsinanana, Androy and Anosy regions, enabling them to adapt their production to climate change. To this end, PrAda is working with the General Directorate of Meteorology (DGM) to improve the availability of agrometeorological data. The project cooperates with insurance organizations and regulators to introduce climate risk agriculture insurance in Madagascar. In order to strengthen the entrepreneurial spirit in the regions, the Farmer Business School, a training course on entrepreneurial management of agricultural exploitation has been introduced in Madagascar. The three regional chambers of commerce and industry are supported in

setting up a market information system in order to improve the access of local actors to local, national and international markets and the private sector. At the national level, the ministries concerned are supported in the development and implementation of three national strategies aimed at promoting agribusiness, organic farming and cooperatives.

PrAda results so far	Link with GEF Project
The Malagasy meteorological service has introduced a more precise forecasting model of agrometeorological data and modernized data transmission. Crop calendars for five crop types have been updated and digitized so that farmers can access them via simple mobile phones to better plan their agricultural activities.	The GEF project will agree on a collaboration protocol with GIZ to ensure coherence and synergies among both projects? interventions in Atsimo Atsinana region. All target landscapes/regions of the GEF project will benefit from the crop calendars of crops targeted by the two projects (e.g. coffee and other complementary crops) to plan agriculture production activities, and from the agrometeorological forecasting system supported by PrAda.
A Malagasy insurance company has successfully launched a pilot climate risk insurance product on the market for groundnut growers against drought.	The GEF project target farmers who are active in groundnut production in Atsimo Atsinana region will be exposed to the PrAda developed insurance services so that they can benefit from them.
9,000 households have participated in training on improved production and processing techniques, about 3,600 households have participated in training on agricultural entrepreneurship and 2,350 households are sensitized on climate change. 6 cooperatives with approximately 500 members have been able to conclude contracts with the private sector.	The GEF project will share with PrAda the training materials/opportunities (especially about FBS) and experiences to develop inclusive agrobusiness contracts between producers and buyer companies, with special focus on the coffee VC, shared by the two projects in Atsimo Atsinana.

The **Soil Protection and Rehabilitation project to improve food security (ProSol: 2018-2022)** funded by BMZ and the European Union and executed by GIZ under the supervision of MINAE and which is also part of the initiative of the German Federal Ministry for Economic Cooperation and Development (BMZ) "ONE WORLD without hunger", aims to protect and rehabilitate 23,000 ha of land seriously affected by degradation, including 11,000 ha of arable land used by smallholders and 12,000 ha of pasture and forests in Boeny region. The project adopted an agroecological approach, taking into account the balance of agriculture and nature and the services it provides. The project also operates in the establishment of a sustainable system for the supply of inputs such as seeds. Among the results obtained from the project, we can mention 30% yiled improvement in the conserved and rehabilitated soils, and the socioeconomic improvement of 20% of the women of the 13,696 households

participating in the project. The GEF project will build on ProSol lessons learned on soil conservation and restoration to be adapted to the local agro-ecological conditions of the target regions.

The **Inclusive Agricultural Sectors Development Program (D?FIS ? IFAD: 2017-2028)** has the objective to sustainably improve income, food and nutritional security of vulnerable rural people in 7 regions of southern and central Madagascar (Androy, Anosy, Ihorombe, Haute Matsiatra, Amoron'i Mania, Vatovavy-Fitovinany, Atsimo Atsinanana[2]). With a total budget of USD 250 million, the Program targets 320,000 family farms (EAF[3]). At least 30 percent of EAF are headed by women or young people. Eight value chains ? rice, maize, cassava, groundnut, coffee, onion, small ruminants and honey ? have been selected, three in each region. Through DEFIS, MINAE[4] (Ministry of Agriculture & Livestock) is supporting the revitalization of the coffee sector in the target region Vatovavy Fitovinany, with special focus on the introduction of more efficient varieties, among others the biclonal one.

DEFIS results by mid 2021	Link with GEF Project
? Revitalization of the Consultation Platform for the Rice Sector and enhancement of the honey CRASMA platform bringing together 1,426 beekeepers. The partnering with the Chambers of Commerce and Industry (CCI) has facilitated market prospecting and linkage between POs and private sector players.	? The GEF project will agree on a collaboration protocol with IFAD to ensure coherence and synergies among both projects? interventions in the target regions. ? The GEF project will benefit from DEFIS experience on VC platform development for rice and honey to support the development of landscape-level platforms and facilitate the participation of the targeted rice stakeholders in the Consultation Platform for the Rice Sector.
? The establishment of 860 farmer field schools (FFS) and 301 pilot farm schools (PFS) in partnership with POs and NGOs: 58 FFS established in old coffee plantations and 100 FFS in new plantations in Vatovavy-Fitovinany.	? The GEF project will share with DEFIS the training materials/opportunities (especially about FFS and PFS in coffee plantations) and experiences.

? Since 2019, 281 tons of certified seeds (including rice) and 384,739 coffee seedlings were produced and distributed, benefiting 28,396 family farms. 60 nursery facilities were established in Vatovavy-Fitovinany for the production and planting of coffee seedlings from selected varieties. 880 seed multiplier producers and seed producer groups were trained (seed production and certification) and established in all target regions. Target farmers in Ihosy and Fianarantsoa regions have taken steps to register the *mangafototra* rice variety (variety well-adapted to local conditions) in the national catalogue. DEFIS has also implemented a pest control system (CLA, varroasis, locusts), thus reducing the level of loss.	The GEF project will benefit from DEFIS experiences in the production of certified seeds of climate-adapted rice (complementary crops) varieties and coffee seedlings. Farmers in the GEF target landscapes will have access to both DEFIS and GEF-FOLUR supported community seed banks and nurseries, what will allow to upscale project interventions.
? Investments in marketing infrastructure aimed at reducing post-harvest losses, concern storage warehouses (20 storage warehouses already built, 6 warehouses under construction), cassava gari processing units (16 units) and 2 coffee roasting units.	The GEF project will build on DEFIS experience on post-harvesting infrastructure to guide selection criteria and business plans for applicants to the GEF project procurement windows supporting investments in this type of equipment and infrastructures. The GEF target farmers may benefit from the post-harvesting infrastructures developed by DEFIS in the target landscapes.
? Efficient water management irrigation schemes were established in 7,058 ha and supplementary irrigation management based on water reservoirs and groundwater wells. This has allowed 2 rice growing seasons per year and off-season production in vegetable gardens, generating surplus and improving nutrition at household level.	The GEF project will build on DEFIS experience on irrigation infrastructure and management systems to guide selection criteria and business plans for applicants to the GEF project procurement windows supporting investments in this type of equipment and infrastructures. The GEF beneficiaries will be exposed to DEFIS best practices on rice production improvement and diversification, through learning visits, and the sharing of learning & implementation materials.

The **Support Program for Rural Microenterprise Poles and Regional Economies (PROSPERER/IFAD)** has supported investments in the renovation of coffee farms in several regions, but their scale remained limited, as they only concerned 0.15% per year of coffee farms. The potential for setting up partnerships between producer organizations (PO) and market operators (MO) on coffee is high thanks to the presence of companies that want to increase their raw material supply on a sustainable basis from an economic and social point of view. The SARIAKA (PO) and R?AINA CORP (MO) partnership on arabica coffee in the Itasy region shows the commitment of the parties to enhance the value chain in the long term (e.g. relatively attractive price of 21,500 Ar/kilo; the extension of the

producers' plantations; MO extension services to producers; training of coffee cooperatives on production issues such as biological-control techniques with DREAP Itasy). In the regions of Vatovavy Fitovinany and Atsimo Atsinanana, the Sangany company is present in the coffee sector and shows an interest in a partnership with small producers. This company, created in 2015 by Agribusiness Booster and HERi Africa GmbH, has the objective to develop a sustainable robusta coffee value chain that improves the livelihoods of 100,000 small producers, through the production and distribution of high-quality seedlings, and the use of modern ICT techniques (e.g. a database and mobile network for planning, monitoring and traceability of coffee suppliers and direct communication with producers on daily prices; secure payment is offered through local microfinance institutes and Mobile Money systems), the setting-up of fully equipped collection points in the main production areas (warehouse, balances, moisture meters, computerized management system, and other post-harvesting buildings and equipment, and UTZ coffee certification following the 4C (The Common Code for the Coffee Community) sustainable principles (environmental, social and economic) and criteria.

The GEF project will build on PROSPERER experience and lessons learned on inclusive agribusiness partnerships among local producers and buyer companies to help upscale inclusive contract farming between target coffee producers and buyer companies operating in the target landscapes, and develop new contract agreements with other buyer companies, including the Slow Food Cooffee Coalition members that are partners of the GEF project.

The **2012-2019 UNEP/Adaptation Fund Project ?Promoting climate resilience in the rice sector through pilot investments in Alaotra-Mangoro Region?** has the objective to demonstrate pathways towards the transformation of the rice sub-sector to make it more resilient to current climate variability as well as expected climate change and associated hazards, through implementation of pilot investments in the Alaotra-Mangoro region that have the potential of being upscaled at national level. The Terminal evaluation report[5] has identified the following achievements that are relevant for the GEF project:

? Guidelines for technicians (trainers of farmers) to adopt Integrated Resilient Rice Models (MIRR) and Technologies (seeding, field preparation, fertilization, weeding, phytosanitary maintenance and harvest) were produced in Malagasy and French languages, addressing rice cultivation under poor water management conditions, good water management conditions, and rainfed cultivation on hill sides. MIRR guidelines integrated by FOFIFA in the National Strategy for Rice Development.

? CC impacts and vulnerability maps for rice production were produced, as the basis for training practitioners, and to guide rice cultivation planning.

? Production of (and training on their use) agricultural calendars with climate early warning information on flood risk and weather forecast, that were disseminated twice a day by local radios.

? Agriculture extension staff trained on climate risk management (flood and drought risks).

? Development (15 varieties), testing and distribution (3 varieties selected by farmers) of climate-resilient rice varieties. 30 seed producer groups were trained, from which 3 are certified to produce and sell improved rice varieties.

? Target farmers trained on the use of organic compost (fertilization guidelines), from which 89 percent have adopted this practice and part of them produce their own compost. ToT on integrated pest management (30 percent women).

? Irrigation canals and drainage system rehabilitated. Water User Associations (WUA) trained on efficient water management.

? Training and implementation of off-season vegetable crops rotation.

? Weak results were obtained in forest restoration interventions (included forest species planting and agroforestry planting), with high mortality rates due to several factors (land preparation problems, inadequate planting period, etc.). However, restoration interventions directly implemented by farmers achieved better results.

? Training and increased use of rice straw for bioenergy (improved stoves, charcoal), compost, livestock feeding).

? Construction of three climate-resilient storage facilities and training for their use.

The GEF project will build on the lessons learned of UNEP?s project on resilient rice production in Alaotra-Mangoro Region to be adapted to the local agro-ecological conditions of the target regions.

The **Sustainable Landscapes in Eastern Madagascar program (SLEM - 2018-2023)** implemented by Conservation International (CI) and funded by the Green Climate Fund (GCF). SLEM has a total budget of USD 69.8 M, from which 77 percent is GCF funding, USD 15 M comes from EIB loans, USD 0.5 M from Althelia, and USD 0.8 M from CI. SLEM, led by CI and the European Investment Bank (EIB) together, and their co-executing partners the GoM through its Climate Change Office (Bureau National de Coordination des Changements Climatiques/BNCCC) and Althelia Climate Fund GP Sarl (?Althelia?), will be implemented in the landscapes of COFAV and the Ankeniheny-Zahamena Forest Corridor (CAZ) in Eastern Madagascar. The programme will use a landscape approach to achieve its CC mitigation and adaptation objectives in the target landscapes.

SLEM Outcomes	Link with GEF Project

Strengthened adaptive capacity for sustainable agriculture production and reduced exposure to climate risks	? The GEF project will agree on a collaboration protocol with CI to ensure coherence and synergies among both projects? interventions in the COFAV corridor. ? The procurement windows to facilitate beneficiaries? investments in FLR/SLM/SFM/VC inputs and equipment from GEF Components 2 and 3 will build on SLEM experience for the establishment of Investment Fund for (i) sustainable production and transformation ensuring traceability and zero-deforestation of VC commodities; (ii) access to renewable energy, such as small solar, hydro, wind and/or agri-energy.
Strengthened awareness of climate threats and risk-reduction processes	The GEF project will benefit from the capacity development materials produced by SLEM targeting professionals, primary, secondary and university students, and community practitioners, with a gender and literacy focus. The GEF will coordinate with CI the production of new knowledge management materials so that there is coherence and additional value.
Strengthened institutional and regulatory systems for climate-responsive planning and development	? The integrated planning interventions ander GEF Component 1 will build on SLEM lessons learned onintegrating CC issues in spatial planning at landscape and communal level and on the SLEM landscape accounting framework to allow users to share and analyse monitoring and evaluation data.
Increased number of low-emission power suppliers	? The GEF project will build on SLEM identification of potential investments on renewable energy (e.g. micro-hydro, solar) and alternative sources of energy (e.g. ethanol production for cook stoves) to guide Component 2 and 3 interventions aiming to reduce deforestation, improve firewood use efficiency and the use of renewable energy in coffee and rice production, post-harvesting and processing.
Improved management of land and forest contribution to emissions reduction	? The GEF Project Component 3 interventions on sustainable financing for FLR implementation through payments for ecosystem services (PES) will build on the SLEM REDD+ pilot landscape initiatives designed and implemented in the COFAV that have been validated and verified under the Voluntary Carbon Standard programme and the Climate Community & Biodiversity Standard.

The **USAID FIOVANA (2019-2024)** project, implemented by ADRA (consortium lead), FIANTSO, Agronomes et Ve?te?rinaires Sans Frontie?res (AVSF), TANGO International, and FHI 360, and targeting 428,800 vulnerable people (71,467 HH) in Atsimo Atsinanana, Vatovavy and Fitovinany regions, has the three objectives of: (i) Sustained improvement in health and nutritional status of women of reproductive age, adolescent girls, children under five; (ii) Households income are sufficient

to access food and non-food essentials and build savings; and (iii) Enhanced social and ecological risk management. According to FY2021 report, the project has undertaken the following actions:

? 113 FFS and 66 Village Saving and Loan Associations (VSLA) were identified in 20 communes and training and technical supervision has started.

? Setting up six tree nurseries; Identifying local providers of fuel-efficient cookstoves.

? Training of specialists and field staff on technical approaches (e.g. Permagarden techniques, Agroecosystem, FFS approach; VSLA approach) and; training of youth associations in Manakara and Farafangana; ?Make me a Change Agent? (MMCA) ToT workshops on water, sanitation, hygiene, agriculture and livelihood issues.

? Established 42 Disaster and Response Management Committee (DRMCs) and revitalized 18 out of 20 DRMCs in 20 communes, which serve as an entry point for program delivery in each community, will empower community members by building social capital, linking them to government and other stakeholders for strategic relationship building.

The **USAID Hay Tao Program (2018-2023)** has the objectives to (i) improve CBNRM and PA management, (ii) improve economic development and social support programs near high-BD value areas; (iii) enhance policies, tenure security and civil society engagement in decentralized NR governance. The program has a national coverage.

The **USAID/II Development Food Security Assistance (DFSA) Activity** awards one cooperative agreement of approx. USD 45 M for a five-year period to reduce chronic food insecurity of vulnerable HH and communities in Atsimo Atsinanana, Vatovavy and Fitovinany regions. USAID works in coordination with the World Food Program (WFP), the World Bank (WB), the host country government and other donors to collectively benefit highly vulnerable populations in the targeted areas.

The GEF project will agree on a collaboration protocol with USAID to ensure coherence and synergies among complementary interventions in Atsimo Atsinanana, Vatovavy and Fitovinany regions, and build on USAID lessons learned on FFS and ToT training, and community involvement.

The overall objective of **AfDB/PROJERMO 2015-2022** (Young rural enterprises in the Middle West) is to increase agricultural productivity and production in order to contribute to improving food security and poverty reduction, and to promote decent employment for young people and women. More specifically, the project works for the creation in its area of intervention, of an attractive and favourable environment for the establishment of a dynamic system of promotion and installation of young businesses and young rural entrepreneurs, through the development of agricultural investment areas (development, construction of hydro-agricultural networks) and socio-economic infrastructure rural roads, and market places) and the facilitation of access to sustainable financial and non-financial services essential for business growth. The project is active in the target region Amoron?i Mania

(among others) with concrete results in terms of rehabilitated roads, bridges and irrigation infrastructure, equipment for investment agriculture zones (workshops, solar panels, equipment for schools), cold storage and processing equipment for agriculture produce, pest management inputs, etc.

The GEF project will benefit from PROJERMO interventions on infrastructures (rural roads and marketplaces), women & young business development investments, and agriculture production equipment (workshops, solar panles, cold storage and food processing) in the target region Amoron?i Mania.

The **World Bank Economic Transformation for Inclusive Growth Project/ETIGP (2021-2027)** helps increase the growth of small and medium enterprises (SMEs) in target regions in Madagascar. The Project has 3 components: C1 ? Attracting and retaining private investment and removing key constraints to support economic recovery from the COVID19 crisis; C2 - Removing constraints to private investment and enhancing local economic competitiveness to support recovery in target regions and target sectors; C3 - Supporting SMEs and entrepreneurship recovery and growth in target sectors and target regions. ETIGP will provide direct support to SMEs and entrepreneurs, invest in infrastructure (including small works in roads, water and electricity), and finance technical assistance and capacity building to the government and other institutions, including those in the private sector. In addition to promoting job creation and increasing revenue growth in SMEs, this project will increase the resilience of these firms, especially given the impact of the COVID-19 pandemic.

The **World Bank Adapting Rice Systems for Enhanced Food and Nutrition Security and Riz Plus** projects support: 1) the upgrading of the quality and performance of irrigation infrastructure and services; 2) the increase in productivity and environmental sustainability of rice systems and enhancement of farmer access and connectivity to good/services markets (i.e., inputs, output); and 3) the strengthening of the enabling environment for private sector-led growth of the rice sub-sector. Finance analytical studies help address knowledge gaps and support institutional strengthening for improved coordination of the entire value chain and stronger advocacy for needed sector reforms.

The WB through the three projects mentioned above (ETIGP, RD-Rice +, PIC 3.1) will provide cofinancing to this FOLUR child project as detailed in section (v) below. A collaboration framework will be agreed between WB and the FOLUR child project to ensure coherence and synergies on the sustainable intensification of rice production and the improvement and growth of SME involved in the targeted VCs in the target landscapes.

JICA PAPRiz-3 project (2020-2025) is strengthening the rice value chain to achieve food self-sufficiency and building a basis for future export, targeting 200,000 beneficiaries trained on the PAPRiz technical package over 300,000 ha in 23 regions of Madagascar. While these investments recognize the problems of land degradation that affect the landscape, they are not adequate to maximize global environmental benefits, to address issues operating across landscape, between sectors and

among diverse stakeholders, or to mitigate the impacts of a growing local demand for rice and international demand for coffee. The project will capitalize on these ongoing investments, by adopting good practices, replicating successful approaches, drawing on expertise and integrating with existing Government led coordination and project implementation systems. PAPRiz-3 will provide cofinancing to this FOLUR child project as detailed in section (v) below. A collaboration framework will be agreed between PAPRiz and the FOLUR child project to ensure coherence and synergies on the sustainable intensification of rice production in the target landscapes.

Founded in 2005, the ***Fondation pour les Aires Prot?g?es et la Biodiversit? de Madagascar*** **(FAPBM)** is a Malagasy Fiduciary private fund aiming to become a sustainable funding mechanism for the Madagascar Protected Area System. Its expertise in the conservation financing of protected areas, the good governance of the Funds, the relevance of its interventions and the sustainable impacts, to which it contributes, allow the FAPBM to benefit from the confidence of its donor contributors (notably the German Development Bank KFW, the French Agency for Development, CI, WWF, the World Bank and the Malagasy State). For instance, in 2021 FAPBM has committed a grant of USD 2,735,722 for the benefit of the Protected Areas System of Madagascar (SAPM). This funding will: (i) provide recurring operating expenses, local development and conservation activities (including through the annual subsidies) of 35 protected areas; (ii) help face emergency situations that threaten BD and conservation (through the Special Response Fund) in protected areas; (iii) strengthen the capacity of new protected areas (thanks to the Strengthening Fund in New Protected Areas); (iv) finance a compensation program (offset) in 1 protected area; and (v) fund the extension of protected marine areas by the MPA-GEF 6 project (World Environment Fund - Protected Marine Areas). FAPBM will provide cofinancing to this FOLUR child project as detailed in section (v) below. A collaboration framework will be agreed between FAPBM and the FOLUR child project to ensure coherence and synergies on sustainable forest management, wood and NTFP VC development and conservation/restoration of wild coffee species populations and tapia forests (*Uapaca bojeri*) in the target regions.

The **Missouri Botanical Garden (MBG)** established a permanent base in the 1980s. Since 2003 Missouri Botanical Garden has supported community-based projects in central-southern Madagascar that aims to conserve forests with its full biodiversity complement through its sustainable use by the local community. The program of activities includes: (i) the provision of a legal framework for the conservation of forest sites through its formal designation as new protected areas and CBNRM transfer regulation rules; (ii) the production and planting of more than 1 M seedlings of fast-growing timber species in degraded grasslands around forests as an alternative source of timber from native trees; (iii) the installation of fire breaks around fire-risk areas and the control of invasive species populations; (iv) the promotion of economic actives within the local community such as the production of specially-designed handicrafts for sale in lucrative over-seas markets, vegetable gardening, and improved rice growing; (v) the construction of new clinics; (vi) the organization of educational campaigns to raise awareness of forest degradation problems and conservation and sustainable management opportunities. MBG will provide cofinancing to this FOLUR child project as detailed in section (v) below. A collaboration framework will be agreed between MGB and the FOLUR child project to ensure coherence and synergies on sustainable forest management, wood & NTFP VC development and natural forest restoration in the target regions.

(i) Proposed alternative scenario with a brief description of expected outcomes and components of the project and the project?s Theory of Change

To respond to the land degradation, deforestation and livelihood challenges faced by large production landscapes for eight commodities ? cocoa, corn, coffee, livestock, palm oil, rice, soy and wheat - the GEF has developed the Food Systems, Land Use and Restoration (FOLUR) Impact Program (IP), which seeks to promote sustainable integrated landscapes and efficient food value chains at scale. The program is based on the growing recognition that food production systems and land use need to improve for the health of the planet. The FOLUR IP aims to encourage transformation to more environmentally sustainable production practices and more resilient landscapes.

The FOLUR IP is designed to respond to global challenges and opportunities like those currently facing the Malagasy rice and coffee sectors and forest landscapes. The FOLUR IP has two main dimensions?a Global Knowledge to Action Platform Project (hereafter referred to as the Global Platform) and 27 Country Projects (CPs)?designed to tackle the challenge of achieving a global food system built on sustainable land use practices and productive, resilient landscapes, using both top-down and bottom-up strategies simultaneously. The Impact Program will benefit participating countries by helping them reconcile competing social, economic, and environmental objectives of land management, and move away from unsustainable sectoral approaches.

The FOLUR Global Platform, working with the Country Projects offers capacity building, technical assistance, policy engagement, resource mobilization, and knowledge exchange that help to address the defined needs for: more concerted collective action; more coordinated and integrated interventions; scaled-up investment with a faster pace and greater impact; the need for policy harmonization and subsidy repurposing, financial innovation and leverage, and; knowledge exchange, communication and outreach to existing and new stakeholders. The Global Platform will act at global and regional levels, bringing parties together, nurturing regional and multi-country partnerships, analysing issues and developing evidence for improved practices, providing training and technical assistance, exchanging knowledge on practical successes that can be replicated and scaled, contributing financial and policy innovation, and leveraging resources to help the FOLUR countries achieve more than they could working in isolation.

The FOLUR IP and its Global Platform are also well placed to build on the opportunities represented by the existing network of initiatives, private and public coalitions and international partners that are already working on approaches and practical interventions to address the global sustainability challenge. The FOLUR IP and the Global Platform will build engagements with the private sector commodity roundtables and the Multi-Commodity Convening Initiatives based on their comparative advantage in driving FOLUR objectives forward.

Theory of change through a landscape approach

In line with the FOLUR IP approach, the child project in Madagascar includes two main levels of operation:

? The horizonal level focuses on four large coffee production landscapes in central-eastern Madagascar, that have the potential to sustainably intensify production while delivering global environmental and social benefits. In the case of rice production, which is encroaching into forest areas and becoming an emerging threat and key driver of deforestation for the coffee landscapes, the project will promote a sustainable intensification strategy based on agriculture diversification ? rotation of rice-off season crops and tree-crop-livestock integration - that helps overcome barriers preventing small farmers from consolidating the adoption of climate-smart practices, while ensuring zero-deforestation.

? The vertical level contributes to the sustainable and climate-smart transformation of the coffee value chain by preserving/restoring the coffee ecosystem (natural habitats and agroforestry systems) and genetic resources, supporting farmers? production of environmental and socially responsible grown high-quality coffee, and boosting inclusive agribusiness partnerships with international importers, roasters and retailers involved in certified/verified coffee marketing. In the case of rice value chain, the vertical level will contribute to the sustainable intensification of rice production by preventing further slash-and-burn deforestation in the targeted landscapes, thanks to the increase and diversification of high quality and regular production in the lands already cultivated by the producer organizations (POs) supported by the project (provision of financial, training and technical support for the diversification of their rice production system with complementary off-season crops through the adoption of adapted varieties and the effective use of climate-smart production and post-harvesting storage technologies), the strengthening of the POs entrepreneurial capacity, and their active participation in rice (legume) VC platforms to improve links with market actors, and create/access attractive domestic market opportunities; this will derive in a contribution of added benefits that will provide liquidity to farmers to face basic expenses and invest in the technologies and labour necessary to prevent the frequent farmer?s disadoption of innovative technologies, while ensuring in the long-term the effectiveness of sustainable agroecological farming systems and the improvement of production, livelihoods and environmental conditions (fertile soil and water availability).

? As part of the FOLUR IP, the project will engage in a global-level to harness strategic partnerships with key entities and initiatives that will support the country-level efforts while positioning the overall program to influence global systems change to achieve impactful outcomes.

The project?s landscape approach reflects the commitment made by the Government of Madagascar under the Bonn Challenge for landscape restoration (AFR100 country commitment to bring 4 million ha of degraded forest landscapes under restoration), Sustainable Development Goals (Goal 15, target 15.3, LDN[6] 2030 national targets to restore 400,000 ha of landscapes and improve productivity and carbon stocks in 200,000 ha under SLM) and NDC[7] (national commitment under the Paris Agreement to restore and reforest 270,000 ha of land in the country). In particular, integrated landscape planning and management was adopted as the main approach to enhance the ecosystem services and landscape resilience on which sustainable development depends (the National FLR Strategy, National REDD+ Strategy, National LDN targets, NDC, LPBVPI, GIRE Code, SNPAB)[8].

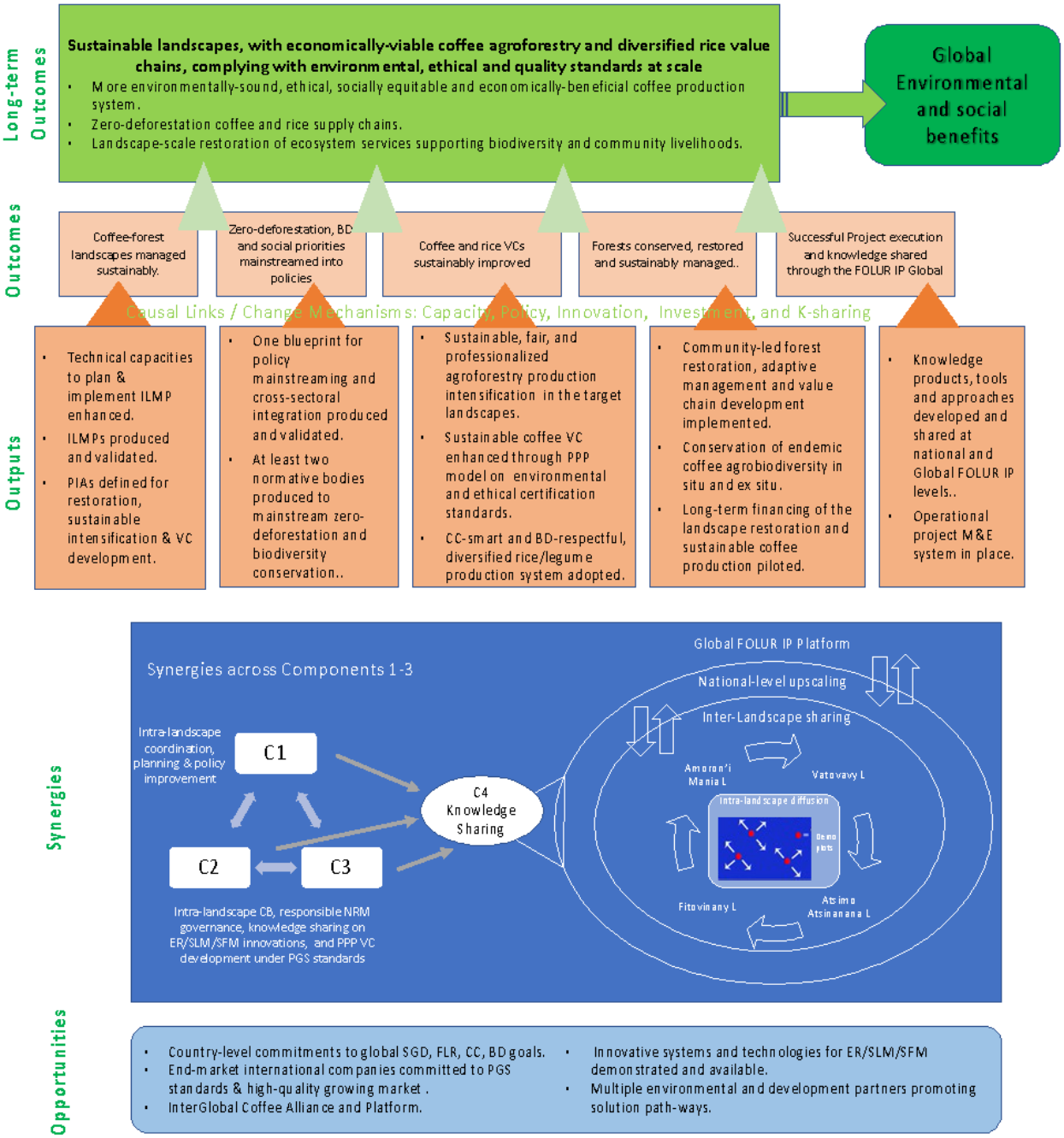
Successful integrated landscape planning processes are those able to reconcile competing demands and find satisfactory solutions for trade-offs among multiple stakeholders? interests, including both development and BD conservation needs. The present project follows the principles adopted by the Global Partnership on FLR, and endorsed by government of Madagascar to enhance responsible/shared tenure governance for the restoration-adaptive management-conservation of multiple ecological, social and economic functions across the landscape that revert to the generation of a wide range of ecosystem goods and services that benefit multiple stakeholder groups (including public institutions, protected area managers, local communities, women, men and mix COBAs/VOIs, women and men individual land users (including vulnerable land users, such as migrants without historical customary rights) and producer organizations, private enterprises and cooperatives, research/academic organizations, civil society organizations, development agencies, investors, financial intermediaries, etc.). In line with the FLR principles, the integrated cross-sectoral planning and management in the target coffee landscapes will also: (i) make use of participatory governance procedures with the engagement of all concerned actors in decision-making, their direct involvement in implementation and monitoring, and in benefit sharing through effective tenure rights? transfer models; (ii) support knowledge generation incorporating scientific innovation and local know-how, and continuous training and technical support for transferring cutting edge knowledge to direct and indirect beneficiaries; (iii) manage adaptively to adjust interventions over time, being flexible and responsive to social, economic and environmental changes; (iv) and regain long-term landscape resilience by addressing the root-causes that link environmental degradation, resource scarcity and the loss of livelihoods.

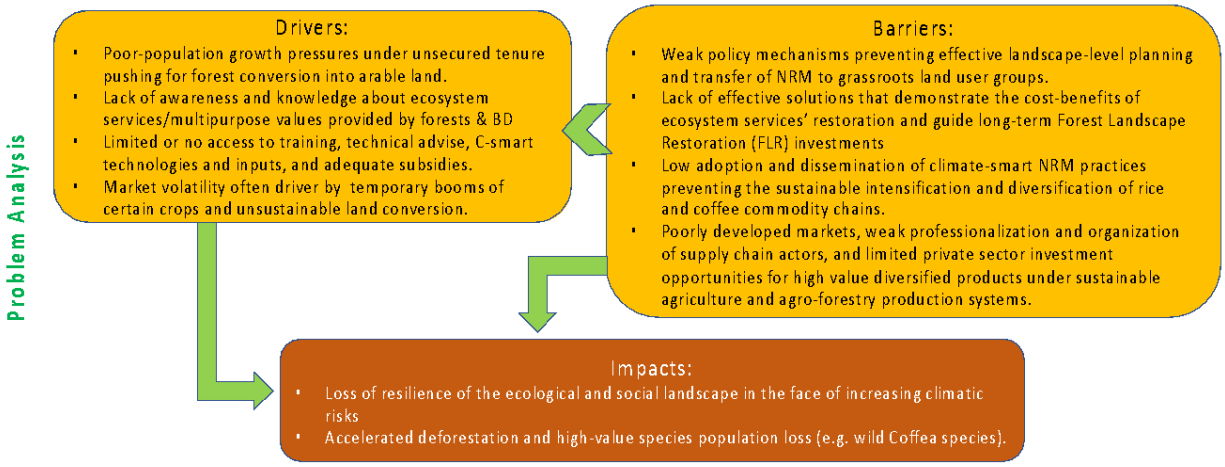
Project Component 1 will help overcome **Barrier 3** (*Weak policy mechanisms preventing effective integrated landscape-level planning, cross-sectoral coherence and responsible tenure governance*) by enhancing the capacity of decentralized institutions and other concerned actors to effectively develop and implement integrated landscape management plans in the target coffee landscapes, and improve the existing tenure and NRM transfer mechanisms to be inclusive of the needs of all direct users - including the vulnerable population and migrants without historical customary rights - compliant with landscape regulations, integrative in terms of compatibility of uses and regulations, and conditional to the BD conservation results, with special focus on avoided deforestation.

The project will apply internationally recognized and nationally adopted integrated landscape planning systems, such as the Forest & Landscape Restoration (FLR) approach and the Integrated Watershed Management (IWM) principles, to analyse, prioritize and harmonize cross-sectoral (namely,

agroforestry, tourism, nature protection, energy and water) restoration, management and conservation needs. For this, the project will build on and interact with a number of projects developing best practices on integrated landscape planning and responsible tenure governance, with past/current interventions in the target regions and elsewhere in Madagascar. These include, for example, (i) the AFD/WB/GEF financed PADAP[9] project (2017-2022) and the proposed guidelines to develop ?Plans for the Development and Sustainable Management of Selected Landscapes? (PAGDP[10]); (ii) the recently approved FAO/GEF project ?Biodiversity Conservation, Restoration and Integrated Sustainable Development of Mangoky sub watersheds (TEFIALA)? implemented in Morombe district (Atsimo Andrefana region) and Vohibato and Lalangina districts (Haut Matsiatra region); (iii) the UNDP GEF/APAA landscape project for the conservation and management of threatened BD in Atsimo Andrefana region; and (iv) the WWF FLR initiative in the moist tropical forests of the Fandriana-Marolambo Landscape in Amoron?i Mania region; (v) the CI/GCF Sustainable Landscapes in Eastern Madagascar Program (SLEM); (vi) several Carbon REDD+ projects in Eastern Madagascar, such as the CAZ Corridor *Ankeniheny-Zahamena* and COFAV Corridor *Ambositra-Vondrozo*.

Figure 10. The Theory of Change Diagram


Long-term Outcomes
Sustainable landscapes, with economically-viable coffee agroforestry and diversified rice value chains, complying with environmental, ethical and quality standards at scale
More environmentally-sound, ethical, socially equitable and economically-beneficial coffee production system.
Zero-deforestation coffee and rice supply chains.
Landscape-scale restoration of ecosystem services supporting biodiversity and community livelihoods.
Global Environmental and social benefits
Outcomes
Coffee-forest landscapes managed sustainably.
Zero-deforestation, BD and social priorities mainstreamed into policies
Coffee and rice VCs sustainably improved
Forests conserved, restored and sustainably managed..
Successful Project execution and knowledge shared through the FOLUR IP Global
Causal Links / Change Mechanisms: Capacity, Policy, Innovation, Investment, and K-sharing
Outputs
Technical capacities to plan & implement ILMP enhanced.
ILMPs produced and validated.
PIAs defined for restoration, sustainable intensification & VC development.
One blueprint for policy mainstreaming and cross-sectoral integration produced and validated.
At least two normative bodies produced to mainstream zero-deforestation and biodiversity conservation..
Sustainable, fair, and professionalized agroforestry production intensification in the target landscapes.
Sustainable coffee VC enhanced through PPP model on environmental and ethical certification standards.
CC-smart and BD-respectful, diversified rice/legume production system adopted.
Community-led forest restoration, adaptive management and value chain development implemented.
Conservation of endemic coffee agrobiodiversity in situ and ex situ.
Long-term financing of the landscape restoration and sustainable coffee production piloted.
Knowledge products, tools and approaches developed and shared at national and Global FOLUR IP levels..
Operational project M&E system in place.
Synergies
Synergies across Components 1-3
Global FOLUR IP Platform
National-level upscaling
Inter-Landscape sharing
Intra-landscape coordination, planning & policy improvement
C1
C2
C3
C4 Knowledge Sharing
Intra-landscape CB, responsible NRM governance, knowledge sharing on ER/SLM/SFM innovations, and PPP VC development under PGS standards
Amoron'i Mania L
Vatovavy L
Intra-landscape diffusion
Demo plots
Fitovinany L
Atsimo Atsinanana L
Opportunities
Country-level commitments to global SGD, FLR, CC, BD goals.
End-market international companies committed to PGS standards & high-quality growing market .
InterGlobal Coffee Alliance and Platform.
Innovative systems and technologies for ER/SLM/SFM demonstrated and available.
Multiple environmental and development partners promoting solution path-ways.



Critical Assumption:
A1. National and decentralized public & private stakeholders are committed to ILMP, and policy improvement for responsible NRM governance.
A2. Cultural barriers do not prevent women and other vulnerable groups from effectively participating in the sustainable NRM governance and NRM.
A3. A package of continuous training, technical advise, accompanying bylaws and investments can motivate farmers for the long-term adoption of ER/SLM/SFM systems and technologies for sustainable coffee, rice and NTFP VC.
A4. There is sufficient and continued commitment (political support, staff, resources, etc.) by national and local government authorities to address forest loss and land degradation through FLR.
A5. Willingness of international and national private and public actors to establish PPP under PGS standards and sustainable financing mechanism for sustainable and socially fair VC.

Once the project trains local actors and establishes effective governance mechanism for their participation in the development of integrated landscape plans and definition of priority zones and intervention priorities at different levels (restoration of degraded agricultural and forestry systems, sustainable management of natural resources and biodiversity protection), Components 2 and 3 of the project will provide solutions to overcome **Barrier 1** (*Low adoption and dissemination of climate-smart NRM practices preventing the sustainable intensification and diversification of rice and coffee commodity chains*), **Barrier 2** (*Poorly developed markets, weak professionalization and organization of supply chain actors, and limited private sector investment opportunities for high value diversified products under sustainable agriculture and agro-forestry production systems), and* **Barrier 4** (*Lack of effective solutions that demonstrate the cost-benefits of zero-deforestation and sustainable agriculture intensification and ecosystem services? restoration, and guide long-term long-term sustainable financing for ILMP)*.

Specifically, Component 3 will help overcome the set of factors that jointly lead to Barrier 4: (i) insufficient knowledge of natural forest habitats? composition and functioning, flora and fauna species-species interactions, plant species diversity (especially about the highly diverse Coffea and other threatened genera), their ecological, reproductive, seed dispersal and population regeneration systems and CC impacts, and their plant material collection and nursery production protocols; (ii) lack of socio-economic valuation of the many forest goods and services provided by natural ecosystems and the many actual and potential benefits for the different stakeholder groups; (iii) lack of capacity to make available sufficient and genetically diverse plant material (e.g. seeds, seedlings and cuttings) of a wide range of wild species/populations and crop species and varieties to allow the implementation of effective landscape restoration when stakeholders will be aware, knowledgeable and willing to embark in such efforts. Component 3 will support farmers? and researchers? investments in innovative technologies for the *in situ* and *ex situ* conservation of genetic resources of wild/cultivated Coffea and other threatened species population, for wild forest and agroforestry species nursery production and

planting technologies, and the continuous capacitation for both public and private restoration experts and NRM community groups, together with permanent coaching support, to guide them through the complex process of ensuring high-quality plant material well-adapted to CC impacts, applying effective adaptive management and planting operations - in terms of planting season, densities, soil preparation and maintenance techniques to increase soil water availability and seedling survival - and ensuring long-term financing for upscaling FLR interventions at the broader landscape and regional scale.

While Component 3 will help reverse landscape resilience loss and mitigate the negative effects of forest degradation and loss through the ecological restoration of prioritized degraded sites within the wider landscape with a positive effect on the ecosystem services supporting coffee agroforestry and main staple crops, Component 2 will directly address the set of factors that jointly lead to Barrier 1 and Barrier 2 - the necessary agronomic improvements supporting sustainable intensification of coffee and diversified rice production, and domestic/international markets for high quality and certified products. Component 2 will: (i) support farmers? investments in innovative technologies, continuous capacitation for both extensionists and farmers, together with permanent coaching support, to guide farmers through the painful long process to acquire security and become acquainted of the use of sustainable, zero-deforestation, diversified production systems and technologies and ensure food and economic security by their long-term adoption and upscaling at the broader landscape and regional scale; (ii) support effective public-private-partnership (PPP) models based on environmental and ethical certification standards to increase the range of markets for local producers and guarantee stability and adequate prices over time through strong direct contract farming between end-market buyers and local producers, all of whom are committed to ecological and social marketing standards.

Component 4 will facilitate the analysis of results for the elaboration of good practices and adaptable lessons for upscaling at the landscape, regional, country and foreign levels, as well as intra- and inter-landscape communication and exchange of knowledge, at the regional/regional level. nationally and among the participating countries of the Global FOLUR IP. Component 4 will help define a coherent and harmonized monitoring framework and set of indicators for the target landscapes that respond to the national commitments to global conventions (LDN, Bonn Challenge/AFR100, INDC, CBD, SDG) and the GEF global environmental and social benefits. Lessons learned from the monitoring data analysis and evaluation results will be incorporated into gender- and cultural-sensitive, user-friendly, knowledge transfer materials and interventions at local, national and international levels.

TARGET PROJECT LANDSCAPES

Introductory note: The participatory process of collecting base information from the project areas has not been completed due to travel restrictions imposed by the COVID-19 pandemic. This has affected both the missions of the international (FAO HQ staff and hired experts) and the national (FAO staff and hired experts) teams, who have had to limit their presence in the field due to country lockdowns, temporary alarms due to a high level of infection in the target settlements, but also due to direct COVID-19 infection problems suffered by some consultants. All this has been aggravated by the scarce availability of information from the most decentralized local level (fokontany) in the national and decentralized sectoral departments. As a result, the project design provides fragmented information and analysis with details sometimes at the local level and sometimes at the village, district or regional level, assuming that the completion of baseline data collection and analysis will be part of inception phase of the project implementation.

The project will be implemented in four target landscapes (one per region) located in the central-southern highland region of Amoron?i Mania, and the south-eastern regions of Vatovavy, Fitovinany and Atsimo Atsinanana. The four landscapes cover a total area of 1,307,287 ha, ninety-one communes belonging to ten districts, and a total population of 1,145,000 people, of which 81.8% (1,070,608 people) are rural inhabitant[1].

Deatiled information on each of the four target landscapes is available in Annex Q. Figure 11 below illustrates where the selected landscapes are located, while table 9 and 10 summarizes in a table main features and land-use for each landscape.

Figure 11. The four target landscapes in Amoron?i Mania, Vatovavy, Fitovinany and Atsimo Atsinanana regions

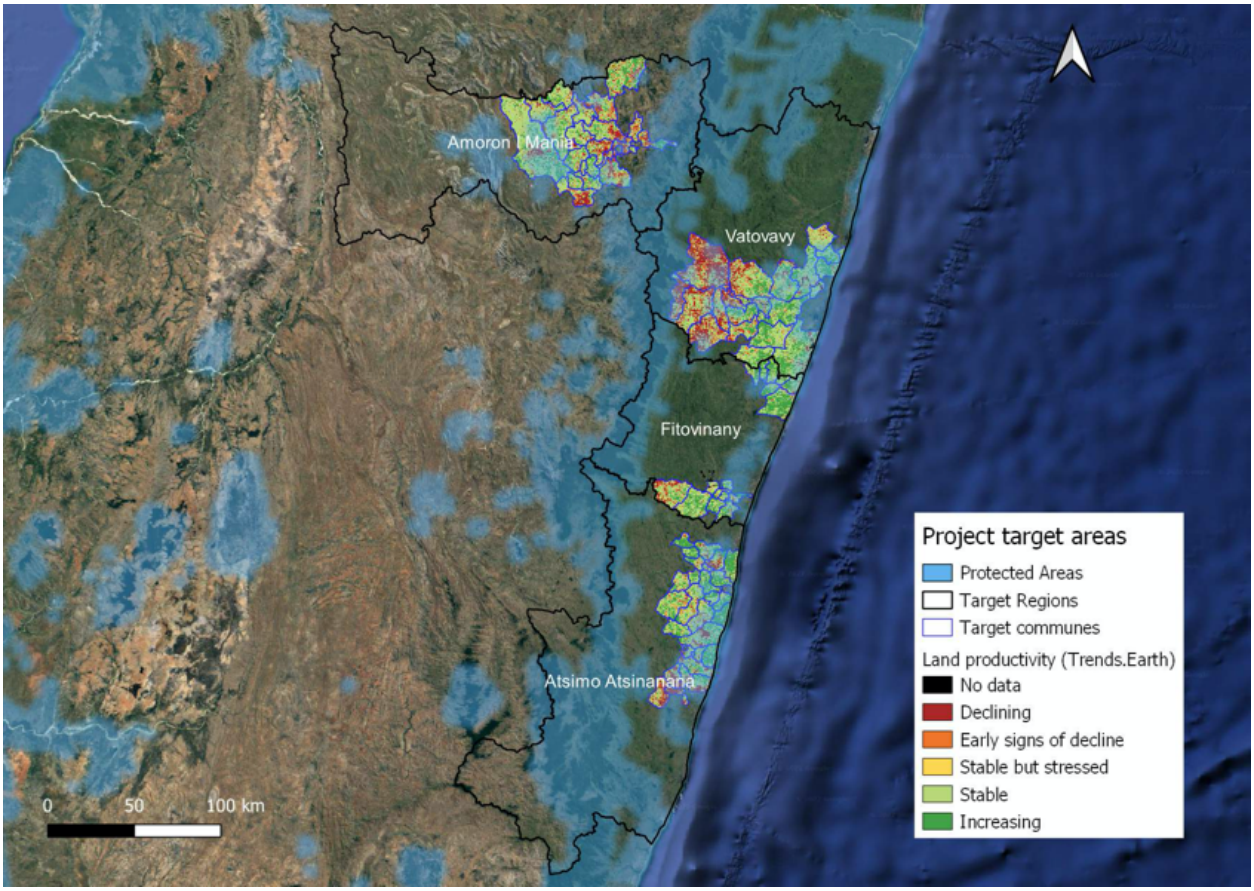


Table 9. The four target landscapes and concerned protected areas

REGION & District	N? Communes[1]			N? of communes including/excluding Protected Areas				Surface
	Rural	Urban	Total	Excluding PA	In/ around PA	Total	Protected Areas[2]	(ha)
REGION AMORON?I MANIA								
AM Landscape (AML)								
Ambatofinandrahana	3	1	**4**	2	2	**4**	Massif d'Itremo, Massif d'Ibity (bordering)	163.033

Ambositra	9		**9**	8	1	**9**	COFAV (bordering)	117.338
Fandriana	3		**3**		3	**3**	Marolambo (bordering)	56.505
Manandriana	9		**9**	9		**9**		60.242
Sub-total	**24**	**1**	**25**	**20**	**6**	**25**		**397.118**
REGION VATOVAVY								
VT Landscape (VTL)								
Ifanadiana	4	1	**5**		5	**5**	Ranomafana (in/bordering), COFAV (in/bordering)	164.875
Mananjary	16		**16**	14	3	**17**	COFAV (in/bordering)	273.237
Sub-total	**20**	**1**	**21**	**14**	**8**	**22**		**438.112**
REGION FITOVINANY								
FT Landscape (FTL)								
Manakara Atsimo	8		**8**	7		**7**		112.860
Vohipeno	8	1	**9**	8	1	**9**	COFAV (bordering)	83.321
Sub-total	**16**	**1**	**17**	**15**	**1**	**16**		**196.181**
REGION ATSIMO ATSINANANA								
AA Landscape (AAL)								
Farafangana	22		**22**	12	10	**22**	Agnalazaha, Manombo (in/bordering)	214.498

Vangaindrano	6		**6**	3	3	**6**	Agnalazaha, Ankarobolava Agnakatrika (bordering)	61.378
Sub-total	**28**	**0**	**28**	**15**	**13**	**28**		**275.876**
TOTAL	**88**	**3**	**91**	**64**	**27**	**91**		**1.307.287**

Ladscape Selection criteria

The project has established the following criteria for the selection of the target areas:

(i) Landscape functionality: The project has adopted the ?landscape approach? which aims to balance a mosaic of interdependent sustainable land uses and management practices and ensure the maintenance of ecosystem processes and services, habitats connectivity, and viable species populations over a large territory. The choice of a landscape approach is consistent with the texts governing the management of natural resources in Madagascar: the 2016 National Strategy on the Restoration of Forest Landscapes and Green Infrastructures (NSFLR); the law on regional planning (LOAT in 2015); the 2019-2029 National Forest Master Plan (PDFN); the 2018-2030 National REDD+ strategy; the 2030 Land Degradation Neutrality/Sustainable Development Goals (LDN/SDG) 15.3 national targets; the 2015-2025 National Biodiversity Strategy and Action Plans (SNPAB); the Intended Nationally Determined Contributions (INDC) to the United Nations Framework Convention on Climate Change (UNFCCC) ; the specific water code recommending (article 24) the ?watershed? as a unit for planning and development and management of natural resources; the 2006 policy letter for the development of irrigated basins and irrigated perimeters (LPBVPI) which recommends integrated management of irrigated perimeters and their upstream areas.

The project has adopted as ?landscape unit? or ?coffee landscape? an ensemble of neighbouring communes where the target value chains, especially coffee production, have a higher geographic representation in the target regions, and VC development efforts may benefit from the ease of grouping active producers in the same region and facilitating associations and business creation among them. Likewise, this landscape approach will allow the project to plan landscape-level actions for forest restoration and improvement of zero-deforestation *tavy* rice cultivation to stop water-runoff erosion and improve ecosystem services supporting coffee growing farmers in the same watershed area.

(ii) Value chain presence: The selection of landscapes has been made based on the areas in the target regions with a large presence of Robusta coffee plantations (Vatovavy, Fitovinany and Atsimo Atsinanana regions: Around 60% of national coffee production). In the case of Arabica coffee, and with the aim of helping to develop a market still limited in size though with high market potentials (including projected CC geographic suitability) , the selection of landscapes has prioritized areas in the Amoron'i Mania region where young coffee plantations promoted by MEDD and MINAE are located for the production of high-quality Arabica coffee.

(iii) Inclusion of BD hotspot areas: The landscape selection responds to the need to regain ecosystem functionality and connectivity among habitat fragments and isolated species populations throughout the landscape, ensuring the conservation of natural resources in productive landscape areas or biodiversity corridors such as the Ambositra-Vondrozo Forest Corridor (COFAV) that along its north-south gradient, borders the target landscapes in the four regions. The target landscapes include protected sections which are part of key BD hotspots of the national protected area system, internationally recognized as having global significance (e.g. identified as Key Biodiversity Areas in the Critical Ecosystem Partnership profile); COFAV, Massif Ibity, Massif Itremo and Midongy-Befotaka NP. in all the targeted protected areas there are natural populations of several wild coffee species, and the main collection of ex situ populations of wild coffee species and cultivated varieties is located in Vatovavy region (Kianjavato Research Station).

(iv) National prioritization to stop and reverse land degradation and deforestation: the target landscapes are part of the priority areas of the country to stop and reverse deforestation and land degradation, as defined in the national policy frameworks to stop and reverse deforestation and land degradation (National FLR Strategy 2017-2030). The target landscapes in Amoron?i Mania and Atsimo Atsinanana regions are part of very-high priority watersheds and the target landscapes in Fitovivany and Vatovavy regions are part of high priority watersheds for FLR interventions. In all landscapes the National FLR Strategy defines priority FLR hotspots.

Please see **Annex Q** for information relevant to each of the selection criteria for each target landscape.

Project description by component and output

The **Project Objective** is to ?Promote sustainable food systems that are deforestation-free and support the conservation of biodiversity and the provision of ecosystem services, with a focus on rice and coffee in landscapes of the Central-South and Eastern coast of Madagascar?.

To achieve this objective, the project is structured into four interlinked and complementary components:

Component 1: Development of integrated landscape management systems; Component 2: Promotion of sustainable food production practices and responsible value chains; Component 3: Conservation and restoration of natural habitats; and Component 4: Knowledge Management and M&E.

This section describes the scope of the components in terms of outputs and outcomes expected to be achieved.

Component 1: Development of integrated landscape management systems.

Outcome 1.1: Coffee-forest landscapes managed sustainably through responsible tenure governance, ecosystem services restoration, and livelihoods? diversification.

Integrated Landscape Management (ILM) is a multi-sectorial approach allowing stakeholders to build compromises between the environmental, social, and economic issues leading to the sustainable development of a functional territorial unit or landscape. Since the 2000s, conservation and development projects tend to address in an integrated way the social-ecological systems that characterize functional landscapes through approaches such as: the ?Forest and Landscape Restoration" principles adopted by the Global Partnership on FLR (GPFLR) and its members; the Integrated Watershed Management (IWM); Integrated Coastal Zone Management (ICZM). These approaches take into consideration the links and trade-offs between different development and conservation objectives in multi-functional large territorial units or landscapes, such as the restoration of ecosystem services, the sustainable management of natural resources, the sustainable intensification of landscape production systems and the conservation and protection of biological and cultural diversity.

ILM is the main approach adopted by the GoM to restore and enhance the climate resilience of the ecosystem services supporting the landscape development sectors: (i) MEDD has adopted FLR as the ILM approach relevant to its contribution in achieving SDG 15 ?*Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss*? and to bring 4 million ha of degraded forest landscapes under restoration (AFR100 country commitment to the Bonn Challenge); (ii) IWM the national Policies on Watershed Development and Irrigation Perimeters (LPBVPI) and on Integrated management of water resources (GIRE) have adopted IWM as the planning tool; (iii) the National Biodiversity Strategy and Action Plan 2015-25 (SNPAB) supports the implementation of the landscape-level conservation approach with an integrated vision in which economic sectors have fully integrated the value of our natural capital and the protected areas network; (iv) the National REDD+ Strategy has adopted the landscape approach ? space for concerted cross-sectoral development and biodiversity conservation - and decentralize tenure governance of natural resources as the foundations of sustainable development.

The project has thus adopted the ILM/FLR principles and approach as the best tool to plan integrated interventions for the recovery of ecosystem services in degraded coffee landscapes, and prioritize restoration, sustainable management and protection measures to halt and reverse land degradation and deforestation.

Component 1 will set the ground for the operational phase of the project, by: (i) supporting the design of four inclusive, integrated landscape plans, including guidelines for the restoration, sustainable management and conservation of natural (forests including wild coffee and other threatened species) and seminatural (diversified rice and agroforestry coffee production systems) habitats, to achieve increased biodiversity and ecosystem services and livelihood improvement, and identifying priority intervention areas (PIA) in each landscape, based on ecological, social, and economic opportunities; and (ii) mainstreaming zero-deforestation and biodiversity priorities into policies and/or strategies that are particularly relevant to the two commodities tackled by the project: rice and coffee.

The integrated landscape planning process will be inspired by the Forest and Landscape Restoration principles[1], and it will build on past and on-going, valuable experiences, such as: (i) the sustainable landscape management plans[2] developed and successfully piloted in five landscapes in northern Madagascar[3] under the AFD/WB/GEF financed PADAP[4] project (2017-2022); (ii) the UNDP GEF/APAA landscape project for the conservation and management of threatened BD in Atsimo Andrefana region; (iii) the GIZ PAGE[5] methodological guidelines for land use supporting the preparation of regional land use plans (SRA) and municipal land use plans (SAC); (iv) the WWF FLR initiative in the moist tropical forests of the Fandriana-Marolambo Landscape in Amoron?i Mania region; and (v) the FLR planning approach followed by the FAO GEF/TEFIALA[6] project in Mangoky river sub-watersheds of Morombe district (Atsimo-Andrefana region) and Vohibato & Lalangina districts (Haut Matsiatra region).

Output 1.1.1*. Technical capacities of national and local stakeholders to plan, implement and update integrated landscape plans enabling biodiversity conservation and the provision of ecosystem services, are enhanced.*

During the first semester of year 1, the capacity gaps and needs identified during the project design phase in the four target landscapes will be analysed further, so as to design specific capacity development plans of priority issues and action areas. FAO has a solid track record of carrying out capacity assessments on major capacity issues, perceptions, and suggestions across the three dimensions of capacity - enabling environment, organizations and individuals ? with the purpose to: (i) identify the capacity strengths and gaps in specific contexts; and (ii) create country ownership. The capacity assessment will highlight the capacity strengths and weaknesses of the involved stakeholders on the principles and practices of integrated landscape planning and ecosystem services restoration, and cross-sectoral measures to coherently inter-link and harmonize biodiversity conservation, sustainable land management (SLM), sustainable forest management (SFM), value chain development for coffee,

rice, and complementary crop varieties, non-timber forest products (NTFPs) and other relevant development issues.

During this phase, the project will be able to draw on the tools developed by the Global FOLUR IP to deliver system-wide capacity building and knowledge exchange amongst child projects. Following the assessment, the project will organize a program of three training workshops in each landscape with the input of national and international specialists. The courses will take place in the first half of year 1 and they will cater to approx. 50 beneficiaries from public institutions, private and civil society sectors, project partners and community representatives. The training will be practical, results-oriented and it will promote knowledge on effective governance mechanisms for participatory landscape planning; effective arrangements for securing tenure; root-causes analysis tools, stakeholder analysis and engagement methodologies; data collection, GIS mapping and analysis of landscape features, threats and FLR opportunities; prioritization and cost-benefit analysis of restoration, management and protection interventions providing multiple benefits; type of finance and resourcing options available for implementing FLR priorities, including sustainable value chain development around FLR interventions (e.g. local nurseries for the production of high-quality plant material; local businesses on agriculture and forest biomass management; local production of climate-adaptive agriculture and forestry equipment and tools); FLR implementation adaptive-management monitoring tools. Each workshop will refer to the priorities identified by the National FLR Strategy in the target regions and landscapes and will introduce best practices and successful integrated landscape planning experiences in Madagascar and other countries that the project team will have identified in collaboration with the FOLUR Impact Program.

Output 1.1.2: *Four Integrated Landscape Management Plans (ILMPs) produced and validated.*

The ILMP design process in the four target landscapes will follow the global FLR principles and methodologies (e.g. the Restoration Opportunities Assessment Methodology, ROAM[7]) that guided the National FLR Strategy of Madagascar, and that are aligned with other relevant landscape planning pilot tools such as the PAGDP developed in the context of PADAP project, and the FAO ILMP methodology defined in the GEF/TEFIALA project. FAO, in the framework of its Forest and Landscape Restoration Mechanism (FLRM) has acquired solid experience and know-how that will be essential to ensure an effective implementation of the complex participatory process of integrated planning - restoration of ecosystem services, sustainable management of natural resources and BD enhancement - in the target landscapes.

The assessment and mapping exercise led by FAO-Madagascar during the project design phase will be the starting point for the formulation of the Integrated Landscape Management Plans (ILMP) defining the ecological restoration, protection, sustainable management, and value chain development priority measures to be implemented under Component 2 and Component 3. The ILMPs will be finalised towards the end of year 1 of the project. The process will be co-led by the Project management Unit (PMU) and by the MEDD, which will make available its offices and experts at the district level. Teams

of national consultants will be created in each landscape to carry out the exercise. The landscape teams (LTs) will engage in a participatory mapping exercise with deconcentrated technical services (STD[8]), decentralized local authorities (CTD[9]), local communities, producer organizations, NGOs, private sector, and research institutions to draw the exact boundaries of the areas identified during project design in the various districts, organize data collection and analysis, prioritize landscape restoration/management/protection interventions, undertake cost-benefit analyses of potential interventions, and define the type of activities (e.g. plant-production and planting techniques for climate-adaptive native species and creation of small local nursery businesses; creation of community seed banks for climate-adaptive crop species and varieties; effective implementation of climate-smart, diversified rice production and coffee/shadow tree agroforestry systems and technologies; sustainable management and protection of wood and NTFP products and creation of small local business on forest bioenergy, ecotourism and NTFP products) and needs (human resources, training, technical support, equipment, inputs and finance) for their effective implementation in each landscape. To do this, the teams will:

(i) review existing information about each landscape, including its geology, topography, climate, the natural context (protection and restoration measures, uses, threats and conservation status of natural ecosystems, plant and animal diversity), the development context (impact of the management, intensity and interrelationships of sectoral land uses in the landscape; communication infrastructure and means; resources? availability and accessibility), the socio-economic profile (characteristics and interrelationships between the different population groups and cultures, gender and age issues, livelihoods, food and economic security, nutrition, capacity to manage natural resources, perceptions and adaptability to climate change, education, health, etc.), the governance systems and tenure rights to land and natural resources, the state of the art of the coffee and rice value chains (including strengths and weaknesses of agriculture and agroforestry in the landscape; production, post-harvesting, processing and market means, systems, actors and dynamics; complementary food and income diversification activities); assessment of best-practices and constraints from past and on-going conservation, restoration and development projects.

(i) Hold stakeholders? meetings to combine the information with local knowledge and field observations to identify desirable landscape features that should be restored and conserved, problems with the current landscape management and the potential multiple benefits of sustainable management and restoration.

(iii) Undertake a participatory mapping exercise based on the information collected and the meetings, to build a map that illustrates landscape features that should be conserved and degraded sites that require restoration and management interventions.

The ILMP design process will be organised according to the following steps:

Step 1	Mapping and baseline analysis
Step 2	Fieldwork phase
Step 3	Production of the ILMPs
Step 4	Institutionalizing the participatory governance mechanisms for ILMP adoption and implementation

Step 1: Mapping and baseline analysis. The LTs will perform a desktop (bibliography, key informants, and remote-sensing data) multi-sectoral baseline assessment of the environmental, social, economic, land tenure and governance features of the landscapes based on the available information. The assessment will also integrate data on the landscape BD - protected area management, distribution and conservation status of priority habitats and key flora (endangered species, suitable shadow tree species, and income diversification wild plants) and fauna species populations, the genetic material of endangered and rare tree/shrub species (emphasis on wild coffee species), the ecological, socio-economic and cultural values of the landscape? biodiversity.

Step 2: Fieldwork phase. This phase will include data collection and validation, HH surveys, and detailed stakeholder identification and analysis in the landscapes. Considering the project's focus on the rice and coffee value chains, and the fact that *tavy* rice cultivation is one of the main causes of deforestation and degradation/conversion of agroforestry coffee plantations, the field teams will carry out an exhaustive mapping from *?the where?,* the extension, and the impact trend of *tavy* cultivation and wood collection in the natural forest stands and coffee agroforestry plantations (including trends to cut shadow trees shifting to unsustainable sun-grown coffee) outside and inside the protected areas. The outputs of this step will be: (i) stakeholders? mapping, analysis and involvement strategy; (ii) analysis of strengths and weaknesses of NRM governance and tenure rights under traditional customary systems and GELOSE/GCF laws, with special focus on gender and vulnerable population groups; (iii) a series of thematic maps for each landscape and the overlapping of the different layers, with the identification of priority intervention areas; (iv) the alternative landscape scenario (land use pattern and management systems) that responds to multiple landscape functions, and provide multiple benefits (synergies and trade-offs between different land users? needs, the sustainable intensification of coffee and rice production, and BD conservation); (v) a report outlining the results and providing detailed information on the type of intervention selected for each priority area -responsible governance and innovation for active field restoration, the production and use of climate-adaptive high-quality plant material (coffee, rice and other crop varieties; wild forest species), the adaptive management of agriculture and forest systems, and biodiversity protection - its cost-benefit, implementation mechanisms and the necessary resources. The prioritization process will build on the restoration, management and conservation priorities defined in the national policies and strategies (e.g. PSAEP/PNIA, NRDS, National FLR Strategy, National REDD+ Strategy, National LDN targets, SNABE[10], INDC, SNPAB).

Step 3: Production of the ILMP. By the end of Year 1, the LTs teams will organize a workshop in each of the target landscapes to introduce results from Step 1 and 2 to the main stakeholders. The workshop will have the following objectives: (i) develop a shared ILM vision; (ii) agree upon site-specific intervention options to address cross-sectoral and responsible tenure governance priorities that help increase landscape resilience and ecosystem services supporting the sustainable intensification (zero-deforestation) and diversification of coffee and rice production, and (iii) agree upon the short-term action plan for the production of full ILMP in each landscape describing the locally-adapted options responding to the national priorities with clear objectives, activities, expected results, implementation measures, timeframe, roles and responsibilities, costing, funding mechanism, indicators and monitoring system.

The ILMP will describe the baseline scenario of all development/nature protection sectors and tenure governance systems within the landscapes, and propose an alternative scenario with a multi-year landscape vision, objectives and expected results, maps showing landscape values, problems and priority intervention areas, the justification and description of locally-adapted intervention measures (e.g. ecological restoration of wild coffee species and forest habitats, adaptive management of natural resources, sustainable intensification and diversification of rice and coffee production systems, and BD conservation) with a cost-benefit analysis, stakeholders? roles and responsibilities, implementation guidance and multi-sectorial workplan, governance recommendations, and a participatory monitoring and evaluation framework to monitor performance and impact. The landscape plans will also include recommendations and guidelines on how to guarantee equitable and inclusive tenure rights and governance mechanisms so that all direct users feel confident when investing in sustainable management practices and technologies and avoid conflicts among development sectors, community members and users? interests.

The LTs will collect the workshop results for the target landscapes and complete by the end of Y1 the redaction of four ILMP incorporating locally adapted options to address the national priorities. Validation workshops will be organised in each landscape by the end of Y1, to share the findings and products delivered by the LTs and get the final buy-in from all the concerned stakeholders. The landscape steering committees (LSCs), which will include designated members of decentralized local authorities (CTD[11]) among others (PMU, community-based organizations, NGO, private sector and research), will play a fundamental role in giving legal coverage to the FLR planning results and promoting their inclusion in the existing regional, municipal, village and VOI plans operating in each landscape. The compliance of the existing plans with the ILMPs objectives is a way to ensure that the multiple environmental, social and economic benefits provided by the ILMP priority interventions are mainstreamed into existing sectoral incentives so that they do not lead to environmental damage and greater poverty.

Step 4: Institutionalizing the participatory governance mechanisms for ILMP adoption and implementation. Following the governance framework proposed by the GEF TEFIALA[12] and the GEF PADAP[13], the project will set up a governance mechanism in each landscape including three levels: (i) Landscape Platform (LP); (ii) Landscape Team (LT); (iii) Landscape Steering Committee (LSC).

The LP will be made up of one representative of the decentralized local authorities (CTD[14]), such as the concerned districts and municipalities, the head of the villages included in the landscape, representatives of village committees, the different ethnic groups (including migrants without historical customary rights), the community-based organizations (including COBAs[15], RAGs[16], producer organizations, associations and cooperatives), women and youth organizations, environmental and development NGOs, local entrepreneurs, deconcentrated technical services (STD[17]), church groups, and other actors operating in the landscape. The identification of LP participants will be carried out by the project team, with the support of local authorities, key informants and community facilitators, and the approved list should be consensual. The project team will discuss with the CTD representatives (e.g. municipalities, districts and regions involved) the best way to institutionalize LPs according to the existing laws[18], in order to sustain its existence after the end of the project. The LP members will share their knowledge, confront their views, and actively participate in all the participatory planning stages to ensure the relevance of the ILMP priorities, proposed interventions and guidelines defined in the plan, and their adequacy to the consensual expectations of the local population and different interest groups. Platform members, with the support of the LT and community facilitators will attend at least four workshops (setting up of the LP and information about the landscape planning objectives and process; participatory data gathering, assessments and negotiations; proposals with LP vision, consensual priorities and intervention options; validation workshop involving TT and SC). LP proposals will be taken into consideration by the project team for the drafting of the FLR plans.

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The LTs will be established in each landscape with a dual function: (i) provide scientific and technical expertise throughout the process (e.g. GIS mapping, data gathering, field assessments, analysis, the writing of the ILMP), which may punctually be reinforced by precise thematic experts; (ii) ensure the smooth running and facilitation of the participatory ILMP planning process (e.g. stakeholders? identification and recruitment of the LP members, awareness raising and information sharing, organization and facilitation of meetings and workshops). The LT will be assumed by five experts (FLR/BD, climate-smart agriculture/innovations; agribusiness/markets; gender/social/participation; policy) hired by the PMU over the 5 years of the project to support ILMP, PIAs and the effective implementation of the ER/ILM/FLM/VC priorities. The LT members will undertake desk and field work, support the organization of meetings and focus groups discussions, organize, attend and facilitate LP workshops, and attend SC meetings.

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The LSC has the function of ensuring that the integrated ILMP plans are aligned with the sustainable development and conservation objectives of the region, and is consistent with national, regional and communal public policies via the existing village, communal and regional plans and programming documents. The LSC will be chaired by the Head of the region (or district) or its Director of Regional Development, and composed of heads of regional, district and/or municipal sectoral departments, representatives of baseline partner organizations, civil society, protected area managers, and private sector. The LSC will be convened at the initiative of the PMU to activate the ILMP planning process[19]. The project team will facilitate the LSC meetings and perform the secretariat tasks (e.g. drafting invitations, defining the agenda, writing of the minutes). The LSC may be required to make strategic decisions such as the prioritization and mainstreaming of the ILMP priorities in the preparation and/or renewal of existing regional, municipality and village-level development plans.

***Output 1.1.3**: Priority intervention areas (PIAs) identified in each landscape based on ecological, social, and economic opportunities, where interventions under Component 2 and 3 will be implemented.*

The ILMPs described in the previous steps will cover the whole surface of the four target landscapes identified at project design. The ILPMs will be conceived as documents that will guide on a long-term horizon the implementation of ecosystem and land restoration, biodiversity conservation, sustainable NRM, tenure rights and governance, and sustainable value chain options for coffee, rice and other important commodities in the target landscapes, at the disposal of all actors and stakeholders and for initiatives/projects to be developed in the landscape well beyond the scope of the project. However, the implementation of the management and restoration activities at the full landscape scale would not be realistic, given the resources and timing of the project. For this reason, the final step of the ILMP development phase will be the identification of target areas (based on the ILMP prioritization mapping exercise) within each landscape, where to focus and concentrate the project field interventions. Priority Intervention Areas (PIAs) will be identified during Step 3 of the process on the basis of criteria such as: (i) areas with levels of degradation whose recovery is possible with a positive cost-benefit; (ii) possibility of improving and positively influencing elements of biodiversity and habitats with high conservation value; (iii) possibility of improving the sustainable productivity of agricultural areas with strong negative pressure on ecosystems and natural resources; (iv) areas with presence of dynamic stakeholders that are prone to sustainable changes and can be easily involved in the implementation of the priority interventions; (v) mosaic-like landscape areas including coffee and rice farmland, as well as forests and degraded forestland with existing or potential value for NTFP harvesting; (vi) presence of already structured Producers Organizations (POs) in the area or presence of infrastructures for storage or for transportation (roads) or markets; (vii) priority intervention areas already identified by the Malagasy authorities as part of strategic frameworks for the target regions. The PIAs will be mapped and profiled and will be introduced to the concerned stakeholders during the ILMP validation workshop, for their approval or amendment. It is foreseen that each PIA will have a size of approximately 5,000 hectares (covering a total area of 96,274 ha in the target landscapes), and will include natural forests, rice-dominated farmland, and coffee agro-forestry system.

The international and national experts of the LTs will support local actors through a participatory process to develop detailed plans describing beneficiaries, activities, training and resources needed, timeframes, costs, monitoring indicators and expected results for the prioritize sustainable production systems (diversified agroforestry coffee and rice crops), adaptive forest management and restoration interventions, and value chain development in each PIA. Moreover, the PIA operational plan will define the governance mechanisms and regulations that ensure inclusive and equitable participation of the target beneficiaries, preventing conflicts with other interest groups and community members, and inconsistencies with the traditional customary regulations. The document will also include a business plan to help understand the return on investments made over the next few years, information that will be used to develop a model of sustainable local business development at the landscape level, and to attract potential donors for the sustainable financing of long-term FLR interventions beyond the project life. The PMU landscape units, contracted organizations and hired experts will support PIA actors in the implementation of the PIA plans aggregating and harmonizing all types of interventions and actors

operating in each PIA area (sub-landscape unit). The LPs will discuss with the CTD representatives (e.g. municipalities, districts and regions involved) the best way to institutionalize PIAs according to the existing legislation[20], in order to sustain its existence and stakeholders? participation after the end of the project.

Outcome 1.2: Zero-deforestation, biodiversity and social inclusion priorities are mainstreamed into policies and/or strategies relevant to the coffee and rice sectors.

The unique natural heritage of Madagascar is subject to fast degradation due to the anthropic pressure and causes described in the previous chapters. Aware of the urgency to protect its natural resources, the **national policy framework** reflects Madagascar?s commitment to stop and reverse deforestation, forest and land degradation, and to implement restoration at scale:

? In 2015, the Government of Madagascar (GoM) pledged to restore 4 million hectares by 2030 as part of the Bonn Challenge and joined the African Forest Landscape Restoration Initiative (AFR100). The implementation of this pledge is steered since 2017 by the National Committee on Forest and Landscape Restoration (CNRPF). The GoM-endorsed measures that are conducive to this voluntary pledge in key multilateral environmental agreements.

? Under the UNFCCC, GoM?s Nationally Determined Contribution (NDC, 2016) aims at reducing 30 MtCO2 of GHG emissions by 2030 and at mainstreaming adaptation, including through reforestation, forest restoration, agroforestry, arboriculture, conservation and climate-smart agriculture (CSA) and the dissemination of intensive rice farming techniques, and of improved stoves.

? Through the REDD+ program, the Malagasy Government adopted a National Strategy in 2018 with the aim of a 14% reduction in GHG emissions from the forest sector by 2030, through the increase of forest cover and control of deforestation and forest degradation.

? GoM?s targets under the UNCCD (2017) and SDG Target 15.3 aim at achieving Land Degradation Neutrality (LDN) by 2030, including by improving productivity and carbon stocks in cultivated and grazing areas, increasing green infrastructure, practicing sustainable agriculture over 200 000 ha and restoring 400,000 ha of landscapes yearly by 2025.

? GoM?s National Biodiversity Strategy and Action Plan (NBSAP: 2015-2025) under the CBD promotes habitat loss reduction, sustainable production plans for agriculture and forestry, ecosystem restoration and resilience, and identified the need for a National Committee for Biodiversity Coordination (CNCB). In addition, Madagascar is a member of ?The Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services? (IPBES) since 2013. Different national structures were also created in support of biodiversity monitoring and capacity development, including the Network of Biodiversity of Madagascar (REBIOMA), created in 2011 to provide online data on biodiversity, and Madagascar?s Network of Conservation Trainers and Professionals (REPC-MD) launched in 2004.

? The creation of GELOSE law in 1996, and the more simplified GCF decree of the forest law in 2001, provide a legal framework to transfer resource management rights from the state to local communities.

? In February 2019 the Government of Madagascar adopted a National Social Protection Strategy (NSPS) for 2019-2023. This integrated national system consists of four pillars: social cash transfers, facilitating access to basic social services, livelihood support programs to progressively graduate poor households out of poverty, and contributory social insurance schemes.

Aligned with this view, **agriculture-related policies and strategies** of GoM call for an inclusive economic and commercial growth through agriculture and green economy and resilience to climate change (Madagascar Emergence initiative IEM: 2019-2023), based on restoration and sustainable management of natural capital and agricultural competitiveness and modernization (e.g. National Strategy for Forest Landscapes Restoration and Green Infrastructures (SNRPF: 2017 - 2030); National Policy for Environment and Sustainable Development (PNEDD: 2015-2030); updated Forestry Policy (POLFOR: 2017-2030)). Overarching national economic and development frameworks, such as the 2020 Strategic Vision on the Environment and Sustainable Development, which includes as a priority focus the restoration of 4 million hectares of degraded land and green economy through the development of sustainable value chains.

Sectoral frameworks related to agriculture, with focus on **rice,** include: (i) Sector Program on Agriculture, Livestock and Fisheries (PSAEP: 2016 - 2020) with a program on the rationale and sustainable use of productive areas and the improvement of access to national markets and repositioning of exports; (ii) Rice Development Policy (PDR); (iii) National Rice Development Strategy (SNDR: 2009-2020); (iv) 2015 National Strategy for Mechanization of the Rice Sector in Madagascar (SNRM); (v) National Strategy on Rice Seeds.

As far as **coffee** is concerned: (i) the National Action Plan for the coffee sector, developed in 2017, as part of Madagascar?s National Green Export Assessment (ENEV), scrutinizes the coffee value chain, from planting to marketing, along with governance and institutional arrangements needed; (ii) the National Strategy and Action Plan on Plant Genetic Resources for Food and Agriculture (RPGAA: 2018 - 2025), aims at contributing to the adaptation of agriculture to climate change for development agriculture and food security for the current population and the future generation; (iii) the National Strategy for Forest Landscapes Restoration and Green Infrastructures (SNRPF: 2017 - 2030), includes, as priority, the restoration of 500,000 ha of agroforestry landscapes through agricultural plantations; (iv) Regional Development Plans (PRD) highlight the implementation of quality policy exported products - coffee growing being among the promising or potential sectors in the selected areas); (v) Development plans and Environmental and Social Management Plans (ESMP) recommend coffee growing as part of the measures to be developed in buffer zones in compensation for the restriction of access to resources in protected areas. Among export and trade strategies and agreements, Madagascar is a signatory member of the 7th International Coffee Agreement (ICA) in 2009, aimed at strengthening the global coffee sector and promoting a sustainable coffee value chains to the benefit of all stakeholders and particularly of small-scale farmers.

The work under this outcome will analyse cross-compliance and opportunities to mainstream CC mitigation/adaptation, zero-deforestation, LDN and biodiversity conservation objectives, assessing the body of policies, strategies and regulations in the environmental and in the coffee and rice production fields. The three-tier process will:

(i) Elaborate and validate a blueprint (Policy Influence Plan) for policy mainstreaming and cross-sectoral integration, based on a policy gap analysis.

(ii) Design and implement a pathway for mainstreaming zero-deforestation, biodiversity, social inclusion and sustainability/certification production principles, into policies and/or strategies relevant to sustainable rice and coffee sectors thanks to the amendment of existing, and the adoption of new laws, regulations, and incentives.

(iii) Define a set of coherent and harmonized by-laws or dinas to ensure good/integrated management and responsible governance of natural resources, with special focus on coffee and rice value chains, in each target landscape.

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Output 1.2.1: *One blueprint for policy mainstreaming and cross-sectoral integration is produced and validated, with a focus on zero-deforestation and biodiversity conservation in the agroforestry sector.*

During the first year of the project, a national policy specialist (NPS) will be contracted to: (i) assess policy gaps and needs, and the degree of synergy between different policies, based on a comprehensive analysis of the existing legislation and regulation body, and in close coordination with MEDD and MINAE; (ii) identify the most appropriate entry points for changes in the political, strategic and legislative framework; (iii) analyse the competencies of all strategic institutional actors and propose changes to improve the current system of governance and responsibilities, and (iv) identify gaps and opportunities to mainstream zero-deforestation, biodiversity and social inclusion priorities into policies and/or strategies relevant to the rice and coffee sectors, including sustainable production. The project will ensure liaison between the NPS and (i) MEDD and FAO/TEFIALA to learn about revised GELOSE/GCF accompanying implementation frameworks; (ii) MINAE, USAID, MICA and MENTP[21] to learn about the creation of a legal and regulatory environment enabling sound cooperative businesses development, agrobusiness and organic farming in Madagascar; (iii) MINAE, GIZ and DGM[22] to learn about climate forecasting models and modernized agrometeorological data transmission systems for farmers, as well as about revised insurance code and the taxation of insurance products; (iv) MSHP[23] and GIZ to learn about the development of methodological guidelines for the preparation of regional (SRA) and communal (SAC) spatial planning; (v) the Global FOLUR IP, among others, so as to facilitate access to relevant policies, lessons learned and innovative legislation available in other countries where the IP is implemented.

The NPS will deliver a Policy Influencing Plan (PIP), including: (i) analysis of the policy frameworks relevant for mainstreaming zero-deforestation, BD conservation, socially-beneficial and sustainable/certification production principles into community-based natural resources management

mechanisms and strategies/policies concerning the coffee and rice sectors; (ii) a stakeholders? involvement plan to help disseminate the outcomes of the analysis, raise awareness among public servants at national and decentralized level and facilitate cross-sectoral policy revision/improvement/harmonization in the framework of existing national policy committees, such as the NFLRC (the plan will also help dynamize the functioning of the targeted national committees and provide them with a specific working framework with long-term goals and milestones); (iii) a policy plan with a cluster of long-term objectives (project time frame) and milestones (intermediate results to be reached along the pathway to ensure the long-term objectives) to support the revision of existing policies/strategies.

The findings of this consultancy will be shared with the PMU, the landscape SCs, and the members of the National Committee on Forest and Landscape Restoration (CNRPF), which integrates members of multi-sectoral public and private institutions and oversees the achievement of national commitments and targets on forest and land restoration, sustainable and climate-adapted NRM, and biodiversity conservation. The outcome of this process will be a blueprint for policy improvement that will be presented during a national workshop at the end of Y1, chaired by the CNRPF, to reach a shared vision and pathway. The workshop will be attended by representatives of ministerial departments, decentralized local authorities, civil society and NGOs, academia/research organizations, (producer organizations and enterprises) and development agencies. The PIP will also be made public through the web sites of the project, MEDD and MINAE, so as to allow comments and inputs of the civil society, the private sector and other concerned stakeholders.

Output 1.2.2: *At least eight normative bodies (decrees, laws, regulations) are produced/ amended/improved to mainstream zero-deforestation and biodiversity conservation priorities, with special focus on the rice and coffee sectors.*

The design and validation phase will be followed by an implementation phase that will last throughout the project timeline. A national consultant with a strong background on legislation and regulations ? possibly the same NPS entrusted of Output 1.2.1 - will be hired by the PMU at the beginning of Y2 with the mission to lead the implementation of the policy plan, with the backup of a Policy Working Group (PWG) chaired by MEDD, and including approximately 10 experts from central and decentralized government, academia/research, private sector and NGO, with good knowledge on environmental, tenure governance and sectoral development policies. This process will also count with the support of FAO and other foreign specialists with recognized experience in the matter, thanks to the technical assistance of the Global FOLUR IP.

The PWG will focus on: (i) providing a working framework for policy development that maximizes the integrated management and good governance of NR and ecosystem services restoration in functional landscapes and mobilizes the implementation of that framework; and (ii) building an integrated community that supports policy implementation. The consultant and the PWG will produce a road map for the achievement of the priority objectives set by the implement the Political Influence Plan (PIP),

and adopted by the NFLRC/other relevant national committees (e.g. CNCC, CNCB), according to the following scheme:

Policy Objective 1		**Lead**	**Actors to be involved**	**Timetable**	**Budget**
Intermediate Results (milestones)	**IR1.1**				
	IR1.2				
	IR1.3				
	IR1.4				
Policy Objective 2		**Lead**	**Actors to be involved**	**Timetable**	**Budget**
Intermediate Results (milestones)	**IR2.1**				
	IR2.2				
	IR2.3				
	IR2.4				

On a day-to-day basis, it is anticipated that the consultant and the PWG will:

? Elaborate draft proposals for the mainstreaming of zero-deforestation, biodiversity, social inclusion, sustainable/certified production, and sound agrobusiness priority bills aiming to improve, harmonize and accompany with specific implementation guidelines the laws, strategies or regulation identified by the PIP.

? Organize awareness-raising meetings and debates with concerned stakeholders in order to reach consensus on the needed changes and accompanying implementation guidelines to improve the policy frameworks and regulations.

? Organize a national validation workshop with all the actors concerned for the presentation of the conclusions contained in the legislative reform proposals.

? Support and monitor the process of legislation amendment/policy mainstreaming in close contact with the concerned ministries and institutions, all the way to the approval of the new policy changes by the Council of Ministers.

? Organize policy working groups with the decentralized local authorities (CTD) and deconcentrated technical services (STD) in the target landscapes/districts to introduce the revised policy frameworks and discuss on the steps to be taken to apply them for the ILMP implementation in the four target landscapes, making use of the proposed accompanying guidelines.

? Define effective, cross-compliant regulations and by-laws for responsible tenure governance, ER, SNRM and VC development in the framework of the four ILMPs, to be adopted by all targeted community-based organizations and producer groups (e.g. by-laws that are part of POs, COBAs, and RAGs tenure contracts), and binding for all members of the local communities (e.g. laws adopted by village institutions).

The goal of this phase will be the production/improvement of at least eight policy frameworks or regulations and their accompanying implementation guidelines by the end of the project.

Output 1.2.3: *Coherent and harmonized by-laws or dinas to ensure good/integrated management and responsible governance of natural resources for ILMPs implementation.*

By the end of Year 1, the national policy expert hired by the PMU will support the LT members to undertake a SWOT analysis of existing community and COBA bylaws and NRM regulations established by the decentralized local authorities (CTD) and deconcentrated technical services (STD), in relation to each ILMP objectives and priorities. The result of the analysis will be the identification of pros and cons of the existing regulations, compatibilities, inconsistencies and contradictions among regulations governing communities and land uses, and proposals to develop a harmonized and supportive regulatory framework for the priorities defined in the ILMPs. The policy expert will present the results of the analysis in a workshop organized for LT members and project beneficiaries.

Likewise, an evaluation of the knowledge of the members of STD, CTD, local community leaders and members, COBA, other local development and environmental associations, and producer organizations, about the laws and regulations that govern NRM and tenure rights in the target landscapes, and of their capabilities in formulating local by-laws. This analysis will have a gender, age, education and cultural approach to identify possible barriers that marginalize the different population actors. The result of the evaluation will serve to design awareness raising and training activities on the contents of existing policies and on the formulation of new local by-laws, with materials, language, modules and sessions specific to each population group. The PMU will organize throughout the first half of year 2 several information events and training workshops (disaggregated by gender and types of users) for the beneficiaries who will participate in the implementation of priority interventions - ecological restoration, SNRM and development of the coffee and rice value chains - within the PIAs. The training will have a hands-on orientation, so that the beneficiaries will be able to apply the acquired knowledge to define the rules that will regulate the good governance and implementation of their activities, in line with the objectives and integrated approach of the ILMPs. As a result of the training sessions, the adherent members of each PIA will define and agree on a set of coherent regulations that will guide the

beneficiaries in the implementation of their management plans and activities (project Component 2 and Component 3), in harmony with the ILMPs, existing laws, and the rights of community members.

Component 2: Promotion and implementation of sustainable food production practices and responsible value chains

Outcome 2.1: Coffee and rice value chains improved in terms of efficiency, sustainability and marketing in the priority intervention areas of the four target landscapes

The forests of Madagascar are disappearing at an alarming rate of 1.50% per year because of slash and burn agriculture - notably for rice - overgrazing, wildfires, overconsumption of fuelwood and charcoal, forest logging and mining. The extreme reliance of a rapid growing Malagasy population on natural resources for their subsistence is threatening both their environment and livelihoods. One of the main causes of agricultural encroachment is the unsustainable practice of slash and burn or ?*tavy*? agriculture, generalized to enable the expansion of cropland for the production of: (i) staple crops (primarily rice, but also maize, cassava, groundnut) that are essential for national food security and largely consumed locally (62% of rice is produced on average for self-consumption); and of (ii) cash crops (e.g. vanilla, coffee, or clove) that offer significant opportunities for additional income-generation and the improvement of livelihoods. The project will focus its impact on two value chains ? one staple and one cash crop - which are complementary in terms of economic and food security, but the extended use of maladapted management practices and market volatility cause critical impacts on the environment (deforestation, degradation or loss of agroforestry coffee plantations and soil erosion), the productivity (loss of soil fertility and water content) and people?s livelihoods in target landscapes:

? **Coffee** is an emblematic cash crop of Madagascar, mostly grown in small (0.5 to 2 ha) and very small (<0.5 ha) farms. Its production covers 150,000 ha in seven regions of the Central South and Eastern Coast and in one region of the North of the country. In 2018, Madagascar was the 24th producer of coffee globally, with an overall production estimated at 23,783 tons, representing 0.2% of its GDP, and a small share of the global export market (0.01%). National coffee production has been steadily decreasing since the domestic market was liberalized in the late 80s. Capacities are weak along a poorly structured value chain, additionally challenged by poor infrastructure (roads, storage and transformation facilities) and the lack of access to credit. In the absence of a guaranteed farm-gate price, the volatility of coffee prices on the global market directly affects farmers. Plantations are ageing (>30 years), productivity in decline -a trend exacerbated by climate change - while a tendency is observed to cut coffee agroforestry plantations in favour of other crops. The promising efforts to revitalize the coffee value chain through an EU-funded initiative of the National Coffee Commercialization Committee (CNCC) were too small to enable a significant change. Additionally, Madagascar?s endemic coffee species that are of critical importance for the future of the global coffee industry in a context of climate change are threatened by rampant deforestation. GoM has been a co-founder and member of Inter-African Coffee Organization (IACO) since 1960. Madagascar signed the seventh International Coffee Agreement and joined in 2009 the International Coffee Organization,

(ICO). Madagascar also harbours the unique collection worldwide of coffee trees under natural forest cover in the FOFIFA?s Kianjavato research station since the 1960s.

? **Rice** is the main staple crop in the country and represents about 50% of the total daily calories? intake. With an annual consumption of 100kg per inhabitant, national consumption ranks among the highest in the world. Rice is produced over 1.3 million ha throughout Madagascar, with 78.8% in irrigated systems in lowlands and irrigated hillsides, 8.4% in rain-fed systems on slopes (?tanety?), and 12.9% in slash-and-burn agriculture systems (?tavy?), the latter being the major cause of upland degradation and deforestation in eastern Madagascar. With an average yield of 2.45 tons per ha - highly variable across regions and farmers? plots - most production is used for self-consumption (62%). Despite being the first crop produced in terms of volume in Madagascar, national rice production is not sufficient to meet the needs of a growing population. National policy frameworks reflect the importance of rice and the threat it represents to natural resources. The Sectoral Programme on Agriculture, Livestock and Fisheries (PSAEP: 2016-2020), the Rice Development Policy (PDR), the National Rice Development Strategy (SNDR: 2009-2020, revised in 2016), and the National Strategy for Mechanization of the Rice Sector in Madagascar (SNRM) aim at increasing rice production for food security and livelihoods. PSAEP in particular aims at increasing rice productivity by 80% to ensure self-sufficiency in rice, to meet 100% of basic food needs and to triple the number of markets, and to increase by 100% the export values of Malagasy agricultural products. To steer the development of the rice sector, stakeholders from the public and private sector collaborate under the auspices of a dedicated coordination platform (PCP-Rice) established in 2005 and very active today. The country also adhered in 2009 to the Coalition for African Rice Development (CARD). To complement this strong enabling environment, a national Rice Development Scheme (SDRP) still needs to be developed.

Limiting agricultural encroachment as well as other major degradation drivers, such as logging for charcoal and fuelwood and mining, over the forests of the country will not become easier as the poor population of Madagascar (74%) grows at a rapid pace of 3% per year. The country struggles to meet its current needs in terms of rice production and without significant efforts to intensify its production in an environmentally sound and climate-smart way, dramatic consequences for food security and nutrition can be expected. Some major partners are already working hand-in-hand with the government to support this shift towards increased rice production (e.g. IFAD/DEFIS project in the four target regions, USAID/ADRA Fiovana project and GIZ PrAda project both in Atsimo Atsinanana, Vatovavy and Fitovinany regions, JICA/IFNA project in Amoron?i Mania) but much remains to be done to help minimize environmental impact and enhance resilience to climate change. On the other hand, pervasive global markets for renowned commodities (e.g. vanilla, coffee) influence Malagasy farmers? behaviours and represent not only a threat to the landscapes but also a significant opportunity to lift local populations out of poverty while contributing to the preservation of fragile ecosystems. The rising global demand for high-quality coffee, a commodity for which Madagascar displays a comparative advantage, and the failure of other countries to meet that demand will likely impact Madagascar?s forests and represents an imminent deforestation threat ? as it has been observed in other coffee-producing countries ? if demand-side public and business policies to regulate agricultural commodity imports to combat ?exported? deforestation do not support Malagasy coffee producers to sustainably intensify (ecologically-sound, socially beneficial and economically viable) shade-grown agroforestry

coffee production systems under zero-deforestation with the additional contribution to both climate change mitigation and adaptation efforts by sequestering carbon and increasing landscape resiliency.

Only an integrated approach tackling simultaneously the different drivers of degradation can help meet the complex challenges of food systems and sustainable development in a globalized context. Aligned with this view, policies and strategies of GoM call for an inclusive economic and commercial growth through sustainable agriculture and green economy and resilience to climate change (see Component 1). In full alignment with these national frameworks, the project will promote zero-deforestation agricultural production intensification of the two value chains that are the main current (i.e., rice) and foreseeable (i.e., coffee) causes of deforestation in the target landscapes.

The project will support a transformational shift towards sustainable food and land use systems that will produce an enhanced package of social, economic and environmental benefits while becoming more resilient to the impacts of climate change and the volatility of the global markets. The project will directly increase the productive capacity of large agricultural areas - focusing especially on rice and coffee - while restoring ecosystems and ensuring a sustainable use of land and natural resources.

At farm level, the project will support climate-smart intensification on plots dedicated to the production of key crops for food security and nutrition (especially rice), with a view to limit forest encroachment by meeting the household?s needs for self-consumption. Simultaneously, the project will promote the development and diversification of alternative income sources, by improving the productivity and sustainability of pre-existing coffee plantations and associated cash crops (e.g. fruits, cloves, vanilla, or pepper), and supporting sustainable rice intensification systems with associated off-season crops (e.g. suitable legume species and varieties) that enhance farmer?s liquidity and food security. The combination of both interventions will improve self-reliance at farm-level and resilience to climate variability and market volatility, thus alleviating the pressure on natural resources unsustainably harvested to meet basic needs of the household. Moreover, the project will seek to shift the supply chains towards certified and traceable products (for rice and coffee), reducing further risk of deforestation, and restoring degraded forest landscapes.

The project will help minimize the trade-offs between conservation and development needs through the enhancement and restoration of ecosystem services supporting multiple environmental and socio-economic benefits. The project investments in the four target landscapes will respond to the GoM priorities (e.g. National FLR Strategy; National LDN target setting; INDC; NBSAP) on climate-smart landscape conservation, management and restoration:

- Village-level tree planting with special focus on bioenergy but also on timber production.
- Promotion of renewable energy sources (e.g. biomass, solar, biogas).

- Restoration, protection and sustainable management of natural ecosystems (forests and mangroves and pastures).

- Identification and sustainable management of climate refuge areas inside and outside protected areas.

- Develop conservation activities programmes of the genetic diversity of crops and livestock and those of other species that have a socio-economic value, and for some wild species of cultivated plants and domestic animals.

- Demonstrate payment for ecosystem services (PES) schemes promoting conservation and sustainable use of biodiversity (BD).

- Restoration of agroforestry production systems.

- Reinforce intersectoral innovation capacity & research for sustainable land management (SLM) in relation to BD and climate change (CC).

- Large-scale implementation of conservation agriculture (CA) and other integrated climate-smart agriculture systems and technologies (e.g. system of rice intensification, selected/adapted varieties, locally produced compost, rehabilitation/modernization of irrigation infrastructures).

The project will support approximately 5,000 coffee farmers and 25,000 rice/legume producers in the targeted landscapes (some of them will be involved both in coffee and rice/legume production), with the aim of ensuring a gender balance (between 30% and 50% of women depending on the VC), and associationism (supporting the registration in producer organizations, associations or cooperatives of the participants to the FFS and conditioning the investments for the value chain of coffee, rice, legumes, and forest products/services, to women or mixed community-based associations, producer organizations or cooperatives).

The project will: (i) build on *the public-private-partnership model* recently developed for the sustainable development of the coffee value-chain by the Slow Food organization and named: ?***Slow Food Coffee Coalition/SFCC*** ***[24]***, and (ii) agree with SFCC members on a partnership agreement that defines the specific aspects of support for this component, focused on the final achievement of commercial agreements between the beneficiary producers and processors of the project and SFCC end market players. Specific justifications and reasons for this partnership are:

? *Technical support*: making use of all linkages potentially available within the quite extensive *SF-network*, the SFCC would allow meeting a wide range of technical needs that the GEF project could face during its implementation: (i) the involvement of an ample assortment of professional expertise/skills experienced in production, processing, trade, setting up of quality management systems, food traditions, etc; (ii) Facilitation of access to new trade-related technologies and skills.

? *Knowledge-sharing:* on a variety of issues, including on know-how acquired to promote local varieties, food sovereignty, biodiversity, eco-gastronomy and food traditions, eco-tourism, animal welfare, sustainability at large).

? *Market access*: by establishing partnerships/linkages with EU or even local market operators ?being them importers, roasters, retailers etc.

? A*dvocacy and promotional campaigns*: through ?Coffee Festivals?, opening of local markets/?Mercati della Terra?, participation in quite broad events such as the ?Terra Madre? one etc.

? *Establishment of linkages between similar experiences* on the coffee value-chain implemented in different geographic contexts (the SFCC recently put in place to cover the Central America and Caribbean regions; the SF coffee-projects in Uganda, the Philippines, Sao Tom? and Principe.

? *Potentials for South-South exchanges* of know-how and technical expertise.

? *Sharing of know-how and experience* detained by SF also in the development of value-chains other than the coffee-one -such as the rice one or the one related to exploitation of forest-products. This would be a quite relevant element for the FOLUR project given the nature of this intervention.

? *Flexibility of the SFCC approach.* As a matter of fact, the setting up of SFCCs in different geographic areas does not follow a standard approach, though it is the result of a process that ensures meeting at best the needs of the partners involved in that specific coalition.

? *Possibility of involving actors active at different stages of the coffee value-chain:* SFCC can easily facilitate the eventual involvement of a wide range of different (public and/or private) actors (both local and foreign ones), being them: importers/wholesalers, retailers, roasters, certifiers, cooks (chefs) etc.

? *Ethical reasons:* SFCC guiding principles (SFCC ?Coffee Coalition Manifesto?) are respectful of the environment, of local anthropologic/ social/cultural contexts, and trade-terms and conditions that *are fully transparent and fair.*

? *Reliability of companies involved*. Partnering with the right trade partners is key in ensuring the success of a restructuring effort like the one that the FOLUR project intends to undertake in the 4 target regions of Madagascar.

? *Promoting coffee origins:* both the identity of, and the knowledge about, coffees? origins particularly among end-consumers, to boost producers? image, their role inside this value-chain and the product?s quality ?thus rewarding it correctly (in image and price terms). In economic terms origin coffees are among those that have shown, in main final consumption markets, the most promising market trends over the last few years.

? *Enhancing produce quality*. Improving overall produce quality is one of the main objectives pursued by the SFCC as a requisite for increasing market access and raising better trading conditions (including of prices) through: (i) The setting up of a ?produce quality certification system?, (ii) Capacity-building of local producers? organizations on coffee quality evaluation.

? *Reducing price risks*: Acting through the SFCC could allow coffee producers under the GEF project to get fairer, and potentially higher, prices for their outputs due to: (i) *Stricter linkages with the*

other value-chain operators, especially importers/roasters and retailers; (ii) minimum prices fixed for ?Fair Trade? certified coffees as a reference for setting the minimum prices at which coffee supplies (of the various varieties) are traded through the SFCC.

? *Shortening the value-chain.* Enhancing, as much as feasible, linkages between primary producers or the organizations representing them (co-ops or associations) and buyers (importers and/or roasters and/or final retailers).

? *Easing the access to new, external markets*. Operating inside the SFCC could increase potentials of accessing international markets otherwise unavailable to small farmers, especially in the case of markets falling within the ?certified?, ?origin? and ?specialty? segments/niches.

? *Enhancing sales? perspectives also on the domestic market(s)*. The work to be done by the GEF project, in collaboration with SFCC, will inevitably have positive effects also over those shares of coffee supplies that would either not qualify for the international market or would be retained for sale on the domestic market.

Output 2.1.1*: Innovative production model for a sustainable, fair, and professionalized coffee value chain from producer to buyer is tested in the target landscapes, including capacity building on sustainability in coffee production*.

Most of Madagascar?s coffee (67%) is produced in the target landscapes. Whereas the high-value *arabica* coffee (which represents less than 5% of the current national production) can be grown in the central uplands, *robusta* is produced in the East. A few medium to large (from 10 to >100 ha) coffee farms exist, including some growing certified organic coffee, while bulk of the coffee is produced in small (0.5 to 2 ha) and very small (<0.5 ha) farms. In the few large industrial plantations, coffee is grown as a monoculture. It is otherwise grown in agroforestry systems under permanent shade, usually in combination with forest trees (Leguminous *Inga dulcis* (?pois doux?), *Albizia spp*., *Acacia spp.*) and / or fruit trees (banana, orange, mango, avocado, papaya, litchi, or breadfruit trees), food crops (leguminous, such as beans, groundnut and ?pois de terre?, rainfed rice, cassava, vegetables, such as cabbage and potato, in rotation), and sometimes commercial crops (clove, pepper, vanilla) and apiculture. In some plantations, temporary shading provided by fodder legumes (*Crotalaria*, *Flemingia*, *Cajanus cajan* (pois d?Angole)) is used. Following the liberalization of the coffee market in Madagascar and its severe economic consequences, numerous coffee plantations have been converted into fields of food crops (rice, cassava, corn, etc.) for self-subsistence.

In brief, the project formulation field missions have identified the following coffee production context (for further information, see chapter on Project Target Landscapes above):

Target regions	**Main findings from field missions**

1. Vatovavy	Although the Robusta variety largely prevails in this region, it is progressively replaced with the more productive, recently introduced, ?biclonale? variety. However, overall grown surface appears to be a limited one and mostly located in the Kianjavato and Antaretra communes. While production takes predominantly place under shade, use of traditional production practices still prevails. Overall, total production in the surveyed locations remains extremely limited (below 30 MT/year). A quite widespread network of producers? organisations (cooperatives) is noted in this region.
2. Amoron'i Mania	Coffee growing in this region is insignificant ?both in terms of surfaces covered and of the size of supplies obtained. However, MEDD and MINAE have coffee development plans in this region and are currently supporting the establishment of new coffee plantations. Few, and totally disorganised, are coffee producers active in the Amoron'i Mania ?commune? where only Arabica is grown due to climatic constraints. Coffee is cultivated mainly ?en plein soleil?, using traditional practices. Yields are low due to the low plant intensity/ha; frequent fires and lack of irrigation water.
3. Fitovinany	Out of the 5 ?communes? making up this region, Analavory and Andemaka are those where production seems to concentrate the most (with 2/3 of the total surface being located in Analavory). The prevailing Robusta variety is progressively replaced with the more productive, recently introduced, ?biclonale? variety. Production practices are predominantly traditional. However, the region is overall reported to be a good producer of coffee (about 3000 MT/year) and to have the highest yields (3 MT/Ha) among all the 4 regions targeted.
4. Atsimo Atsinanana	Robusta is the most cultivated variety in this region. The total area under coffee cultivation in the region was estimated at 23,402 ha in 2005. In the districts Farafangana, Vangaindrano and Vondrozo coffee crops are present in 60-80 percent of farms. Production under shade largely prevails and only traditional cultivation practices are utilised in this region. Coffee production is generally conducted on individual plots where farmers are not organized into groups and trees are too old providing low yields (reason why coffee farmers tend to replace coffee plots with other crops). In addition, bad weather and the frequent passage of cyclones degrade coffee production from one year to the next. The average annual yield of coffee plantations is moderate of around 500 kg per hectare, but with significant fluctuations from one year to another or from one period to another Certain local and foreign buyers take unfair advantage of farmers who are not organized into producer associations and who are vulnerable and often in need of cash. The region has a regional association of coffee producers. The region has the potential to become a center for the processing of agricultural products, in particular the roasting and packaging of coffee, the packaging of pepper and cloves, the preparation of fruit concentrates, the packaging of fruits and vegetables, and the extraction of essential oils.

At a **production level**, the work to be undertaken by the project to restructure the coffee value-chain in the target landscapes will consist of the following, eight specific actions:

Action 1	Coffee plantation rejuvenation and intensification
Action 2	Establishing and/or improving nurseries and skilled managers for high quality plant production
Action 3	Developing existing irrigation infrastructure and piloting waters recycling facilities
Action 4	Upscaling intercropping (coffee shrubs intercropped with shadow trees and subsistence crops)
Action 5	Improving harvesting operations
Action 6	Upgrading reception of picked cherries and ensuing process
Action 7	Training on coffee value chain development
Action 8	Investments for procurement

Action 1: Coffee plantation rejuvenation and intensification with climate-adapted coffee varieties

Coffee production has proven to be highly sensitive to climate change. Considering the lifespan of about 30 years in coffee plantations, the likely effects of future climates are a major concern. Temperature and rainfall conditions are important factors in defining potential coffee yield interfering in the crop phenology, and consequently in productivity and quality[25]:

? *Arabica* coffee plants respond sensitively to increasing temperatures, specifically during blossoming and fructification. Besides the direct impacts of high temperatures on the coffee crop the increase of pests and diseases is supposed to be a consequence of increasing temperatures. Also, water stress affects the physiological activity of the Arabica plant causing a reduction in photosynthesis.

? *Robusta* coffee is better adapted to slightly higher temperatures but is much less adaptable to lower temperatures than Arabica. However, climate change impacts to Robusta coffee are less studied than in the case of *Arabica*.

Current coffee growing regions are already suffering from these changing conditions and are very likely to be seriously affected in the near and long-term future in the absence of adaptation measures. This might have severe consequences, not only for small-scale farmers, but for all actors of the coffee value chain as for the production costs, the coffee price and world market conditions. Stakeholders in the coffee value chains already perceive the climate change exacerbation of rainfall patterns with

higher and/or lower seasonal precipitation and higher frequency of heavy rains, and its impacts in terms of reduced coffee production due to a more uncertain availability of water when it is needed (although poor production practices with inefficient use of water also affect yields). A number of regional initiatives and international organizations, mainly in Latin America (e.g. CATIE[26]/CIRAD/CIAT/FIC in Central America and University of Campinas/Embrapa in Brazil), have analysed and promoted adaptation and mitigation measures to climate change among policy makers and practitioners with the ultimate goal of sustaining coffee producers and the industry in the face of climate change, including: (i) community-based analysis of climate risks and opportunities; (ii) use of climate-smart production techniques, such as shade management, new coffee varieties, shade tree species, intercropped fruit trees and root crop species/varieties better adapted to future climate conditions, conservation of soil and water sources, efficient water management, diversification of the production system and income sources; (iii) use of climate-smart post-harvesting and marketing technologies, such as introducing solar dryers to preserve coffee quality after the harvest, and reducing energy use to operate processing the mills; (iv) sequestration of carbon through the planting of new coffee and shade trees and restoration of the forest areas within coffee farms/plantations, which can be potentially recognized under REDD+; (v) improved access to climate information for coffee producers (e.g. establishing simple meteorological stations in the target regions to monitor temperature and precipitation), including weather insurance products; (vi) financing to invest in adaptation and mitigation, including payment for environmental services.

Aging of coffee trees is indicated as one of the main factors causing low productivity and unsatisfactory product quality of the coffee production-units in target regions. Effects of this constraint are often exacerbated by a too low plants? density in coffee plots. This action will therefore aim to tackle these constraints by: (i) replacing, in a planned and progressive manner (to avoid farmers losing their coffee incomes all of a sudden), oldest trees with new ones making use of climate-adaptive coffee varieties, and (ii) intensifying existing coffee plots by planting additional coffee trees from the selected varieties. The latter would be procured from project-supported nurseries. Varieties to be used for the substitution/intensification operations would need to be selected according to prevailing pedological/climatic conditions in the target regions, besides indications from (domestic or external) market/demand trends and current/future climate change impacts. To this end, it would be essential that an initial scrutiny[27] of native varieties currently available at the Kianjavato research station or otherwise developed by FOFIFA be undertaken by the project, with eventually the SFCC support. This scouting exercise would be meant to assess if alternative varieties would be worth being introduced, on a large scale, to gradually replace current, mainstream ones. Selection of any alternative variety would have to eventually consider its: (i) ability to face and counteract current and future climate change projections; (ii) pedologic and water availability conditions prevailing in the 4 target regions; (iii) productive features (in terms of yields, though, even more important, quality attributes); and (iv) market potentials. Introduction and exploitation of new varieties would be also very relevant in terms of gains (quantitative and price) that could be achieved at final consumers? level by properly enhancing the peculiar ?origin? and ?quality features? of the coffee supplies coming from the project. An alliance, to this end, could also be eventually established with the World Coffee Research Institute (WCRI) that works worldwide on cultivars? development and enhancement. It is implicit that in view of the vast surface cultivated with coffee and the limited timeline and budget available under the project for the restructuring of the coffee value-chain, such operations would be undertaken mainly for demonstrative purposes (as a pilot) and, therefore, on a limited number of hectares in each target region.

As an overall goal, approx. 1,250 hectares/year will be rejuvenated/intensified (global figure for the four target landscapes) as from Y2 of project?s operation, taking into consideration that Y1 will be devoted to undertaking preliminary varietal assessments and to starting to set up the nurseries and establish their operations ?including the organization of coffee seedlings production and of seedlings distribution schemes. By end of Y5, therefore, a total of about 5,000 ha[28] would end up being rejuvenated/intensified at the whole project?s level ? in the 4 target landscapes.

The scrutiny of endogenous varieties currently available at the Kianjavato research station or otherwise developed by FOFIFA and to be undertaken by the project is expected to take place during Y1 of project?s life (first 6-8 months). As underlined above, this scouting exercise would be meant to assess feasibility to reproduce and introduce, on a large scale, alternative, climate-adaptive native varieties to gradually replace current, mainstream ones. During the preparation of the PIA plans, the team of experts, together with the target producers, will have carried out a pre-assessment of the conditions in which the coffee plantations are found and the specific needs in terms of plant renewal, increase in coffee trees? density, and the planting of selected intercropping crop types and shade trees. Coffee tree replacement and increase in plantation density (all layers: coffee trees, intercropped fruit trees and root crops, and shade trees) will take place as from Y2 and on an overall area of 1,250 ha/year (for the entire project). The percentage of trees to be replaced and/or added will depend on the pre-assessment of conditions of each plantation. Under the overall guidance of the project, it is expected that within coffee production units selected for undertaking this pilot activity, the intensification and/or replacement of old, existing trees will take place each year over a maximum of 25% of the overall surface targeted by the Y5 ?when the 100% target would be met. This way, the farmer would be able to harvest coffee berries from old trees, as well as collecting roots and other crops intercropped yielding as from the first season, while new ones become progressively productive. Output 3.1.3 will also analyse and propose bankable opportunities for payment for ecosystem services ? such as the *CommuniTree Carbon Program* on zero-deforestation, sustainable coffee production[29] - that helps compensate farmers during the first years that they must wait until reaching optimal production. SFCC could support the work of the project team in this specific area in: (i) selecting the varieties to be grown in project?s backed-up nurseries consistent with demands? trends on final (retail) coffee markets, and in (ii) monitoring the correct implementation of this specific action at group/community and their members?/farmers? level.

Responsibility for undertaking the initial scouting and qualitative assessment of varieties available at the Kianjavato research station or with FOFIFA will rest with the PMU. However, should the project require it, the SFCC could eventually support this exercise by making available qualified skills/resources from the private sector, and which would help assessing and selecting existing varieties/cultivars according to their productive/processing/market potentials.

As for the tree-replacement work to be started at Y2, a strong involvement of the groups/communities to be supported by the project investments (see Action 8) in each region, will be required. It will be, therefore, key that the beneficiary groups/communities take full responsibility for: (i) properly planning the intervention at the level of those farmers who would eventually be selected for undertaking this pilot action. In particular, the planting and/or intensification of the new seedlings will have to coincide

with the rainy season to ensure the maximum success of the tree replacement operation; (ii) overlooking at pre-delivery and delivery arrangements (land preparation -including holes digging; procurement/delivery and spreading on the ground of manure/compost and transport of seedlings); (iii) the planting and maintenance of new trees; and (iv) monitoring of survival and growing/fructification trend according to the prescribed agronomic practices.

Equipment, seedlings and other inputs for ?tree replacement/increased planting density? will be make available for producer organizations, COBA and community institutions through the funding modality adopted by the project (see Action 8). It is expected that each producer group/COBA/community signs an agreement/commitment with individual final beneficiaries to ensure that the latter will make all possible efforts to make this pilot experience a full success. In the agreement, obligations of both parties (project/group from one side and farmer from the other side) will be clearly stated so as to avoid misunderstandings and losses for the project. Taking all this into consideration, the target group/community should select farmers to join the pilot according to: (i) growers? farming skills and commitment/interest in the proposed new practices and in eventually growing new varieties, (ii) availability of conditions to successfully accomplish this operation (especially in terms of availability/suitability of land and accessibility to water and watering facilities); (iii) written commitment not to deforest new land plots for agriculture production; and (iv) beneficiary?s readiness to contribute to the cost of this operation ?in terms of covering some of the costs linked to the planting operations, such as hole digging, manure application, trees planting and watering.

The farmland plots for new coffee plantations (mainly in Amoron?i Mania region for Arabica coffee plantations) will be prepared in Y1 before the new coffee seedlings are planted out, following a number of steps:

? Selecting the right plots: the PIA plans (Output 1.2.3) will map priority areas for additional coffee plantations in suitable agriculture-design areas based on agro-bioclimate conditions and socio-economic context, and always avoiding any conversion of existing natural forestland.

? Land preparation: Keep any existing tree that can be suitable for shade provision, and undertake the necessary mechanical cleaning (e.g. infesting grass that can compete with coffee seedlings), soil aeration, and water conservation measures in steep areas (adopting contour trenches or terraces, vegetative barriers, bands, grass strips to avoid soil, water and nutrients loss).

? Organize the intercropping multilayer pattern and spacing among seedlings in the plots: define location for shadow trees (some of them, such as avocados, jackfruit and mangoes, also acting as windbreakers in the boundaries of the plot, playing a CC mitigation/adaptation role while increasing biodiversity and income sources), banana/fruit trees, and coffee seedlings.

? Marking the planting rows to make the most use of sun.

? Planting shade trees (according to the species, seedlings number and pattern already decided to avoid competition with coffee for moisture and nutrients) and fruit tree/bananas in rows throughout the coffee garden, preferable one year before coffee seedlings are planted (Action 4).

? Setting up a micro-irrigation water delivery distribution network in the plot (Action 3) prior to the planting of coffee seedlings, making sure there is a reliable water source, and that suitable water harvesting/tanks/reservoirs, hand/solar powered pumping and filtering system are also installed.

? Prepare holes (approx. 60 deep x60 cm diameter) before planting season (approx. 3 months before), adapt planting season to the occurrence of the first rains (this requires good knowledge and predictions about rainfall pattern changes caused by CC) and refill the holes with a mix of topsoil with well-decomposed manure (to be placed in the top 20 cm of the hole to enable the root system benefit from it).

? Select planting material in agreement with farmers and based on previous training (and field visits to existing good quality coffee plots making use of suitable varieties) about additional CC-adaptive, agroecological, pest/disease-resistance, and socio-economic benefits provided by suitable varieties. High-quality seedlings or cuttings either produced in the community nurseries established by the project (Action 2) or bought in existing nurseries, should comply with certified nursery standards (e.g. n? of true leaves at the onset of the rainy season depending on the variety selected; inexistence of signs of pests and disease such as root mealybugs, aphids and brown eye leaf spots; damages in the tap root or twisted taproot; etc.).

? Planting out at the beginning of the rainy season (2 to 3 weeks after the onset of the rains, avoiding windy and too hot and dry days), based on good predictions and knowledge of on-going changes in season distribution of rainfall. Soak the entire seedlings well before planting and ensure that roots are trimmed off before planting. Open up the center of the holes sufficiently to fit the size of the potted plant, remove the plant container before planting, place the seedling with the collar at the level of surrounding soil, fill in the soil pressing firmly, and mulch the entire planted rows to avoid erosion and conserve moisture after planting. Water the seedlings during dry periods until they are well established, based on defined tables for water requirements and irrigation frequency, depending on the time that has passed since seedling planting.

? Bending 5-6 months after planting (or when coffee seedlings reach about 60 cm height to get a multiple stem system of production.

In order to compensate farmers? needs (economic and food security) until coffee and intercropped trees become productive, the project will support target farmers with plant reproductive material of root-tubers and other annual crops to achieve production and profits from the first year of plantation. Cover crops such as *Indigofera spicata, Mucuna, Phaseolus spp, Lablab* and groundnuts will be recommended when intercropping of the annual crops has stopped or from the first year as a measure to help prevent soil erosion, retain soil moisture, and enrich soil nutrients.

In the case of coffee plantation rejuvenation and intensification, it will be recommended that farmers divide the coffee garden into parts and sequence the stumping of old trees (according to defined best practices and disinfection of the pruning tools before starting the stumping process every day and after cutting the previous tree) at different periods to enable continuous income from coffee farms. After stumping, a light tillage (preferably using forked hoes) of the soil (not deeper than 10 cm) is recommended to reinstate the balance between roots and above ground matter, reduce soil compaction, and stimulate the formation of new hair roots, and undertake leguminous intercrop for soil nutrient

increase. A number of new vigorous suckers should be selected for future-bearing stems and the other quickly removed with secateurs before they grow big and hard. Additional densification of coffee plantations will follow similar steps as previously described for new plantations.

After planting, farmers should apply field management practices with little maintenance costs, including: (i) weed control (preferable hand weeding or by hoeing, slashing or with a simple engine) before weeds produce seeds, (ii) regular mulching with organic residues like bean haulms, maize stalks, banana leaves, animal manure and coffee husks, (iii) proper coffee tree pruning/de-suckering to remove broken/dead/unproductive/aged/diseased and pest damaged stems, and canopy management, (iv) adequate soil and water conservation measures that always ensure water and/or moisture availability in the soil. Rainwater harvesting pits and water retention bands shall be established in the dry season to increase water harvesting and storage.

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In order to achieve high coffee yields, the project will support farmers with training, technical support and investments to produce and apply organic fertilizers, namely compost manure from plant materials and animal manure. The PMU and hired experts will help develop a fertilization program that will be introduced to farmers (in addition to the rest of nursery production, planting and management practices) through the FFS (Action 7). The project procurement investments (Action 8) will include the annual sampling and analysis of both coffee leaf and soil in the applicants? fields to determine the current nutrient and pH status of the coffee garden. The results together with expected yield on the trees will be used to determine the fertilizer quantities required for the next application schedule and to define a proper and cost-effective use of organic fertilizers, with the support of the trained extensionists (ToT project activities). The FFS learning will also train farmers to use crop residues for both livestock fodder (recycling animal manure) and compost. Modern methodological composting methodologies and guidelines for the effective use of compost and manure will be provided through FFS field demonstrations. FFS training will also include learning about integrated pest management (IPM) techniques to support farmers identify, monitor, control and manage coffee insect pests (e.g. black coffee twig borer, coffee berry borer, coffee mealybug, coffee leaf miner, coffee leaf skeletonizer, tailed caterpillar, etc.) and diseases (e.g. coffee leaf rust, red blister disease, root rot or collar crack diseases. Through collective action at landscape level (networking coffee production FFS learning schools and communities) farmers will exchange information about pest impacts and learn about suitable IPM control measures (e.g. cutting, chopping and burning affected plant parts; avoid as intercrops/shade tree species that host insect pests; use of pest-free planting materials and resistant coffee varieties from only certified coffee nurseries; regular inspection of fields; regular picking of ripe cherries and removal/bury of dropped cherries -source of new infestations ? infected coffee debris from the trees/soil; undertake adequate seedling spacing and de-suckering and pruning operations; enhance plant nutrition through soil fertility and moisture management; use suitable insect trap technologies; use suitable biological control measures).

It is expected that the project interventions (continuous training and technical support, and the production/provision of high-quality plant material and other investments) will help double production (up to 3-4 t/ha) in 5,000 hectares, and demonstrate and disseminate best practices (dissemination of produced written/visual materials through the web, mobile messages, awareness raising events, etc, and

the organization of learning exchanges involving farmers from the target landscapes and regions) to help upscale production in the target regions.

Action 2: Establishing and/or improving nurseries and skills of managers for high quality plant production

In order to undertake activities described above, nurseries to produce coffee seedlings will have to be set up at a community/group level (see Action 7). The project will back up target communities/groups to establish and manage such infrastructures in terms of both: (i) investment costs to create the nurseries (procurement of shading nets and wooden-poles, water tanks and irrigation tools, fences etc.); (ii) running costs ? purchasing (from FOFIFA, SNGF, etc.) of vegetative material to be multiplied; and (iii) procurement of inputs/materials needed for multiplication purposes (plastic bags, manure/compost, soil, etc.); distribution/delivery of the seedlings to coffee growers. From their side, beneficiary communities/producer groups are expected to directly contribute by: (i) making available the land where the nursery can be set up; and (ii) taking care of staff costs to operate the nursery. It is understood that the surface size of communal nurseries will need to be adequate to the yearly needs (in quantitative terms) of the coffee seedlings of the farmers who joined this pilot in each targeted group/community.

Besides producing coffee seedlings, the project nurseries will expand their activity also to produce:

? Shading trees (native tree species), fruit trees and root crops to be used within the pilot coffee production units managed by the groups? members ?see details under Action 3.

? Native and naturalized tree species for forest restoration interventions (Output 3.1.1).

? Bio-manure (compost), earthworm-compost and biocides to be employed in the project production units (at the minimum, of pilot ones). Availability of manures and biocides that are compatible with the use of sustainable coffee production practices/approaches would be a key component in restructuring the coffee value-chain in the four target landscapes on a more natural basis. Manures and biocides would be, as much as feasible, produced using green waste originating from production units ?even belonging to community?s members, and from organic waste generated at a family?s level. However, purchasing of specialized biocides and other suitable products should be accounted for.

It could be envisaged that these nurseries become, in the long-run (even before the project?s end) business-running entities, to meet a growing demand for coffee-shrubs, shading trees, bio-manure and biocides as a result of the success of the pilot experiences sponsored by the project. Similarly, should privately managed nurseries already exist in the target regions, the feasibility and suitability of linking up/collaborating with them or even of making use of their services, will be explored at project start

before putting in place the new nurseries. The project?s objective will be the setup of 12 nurseries by end Y1/early Y2, for the production of 6,000,000 seedlings (500,000 seedlings per nursery with an annual production of 75,000 seedlings each nursery) for Output 2.1.1 and Output 3.1.1. The project will build on the existing public and private nurseries in the target regions to acquire thirty to forty percent of the required seedlings (procurement investment window under Action 8 below) so that plantations can take place as from Y1.

It is expected that nurseries will begin being set up as early as possible starting early Y2, so that by the end of the year all groups/communities-based nurseries will be up-and-running in all the 4 landscapes. The nurseries will be set up as simply as possible, to eventually grow over time according to encountered needs/potentials. Action 7 will build the capacity of the different staff involved in the production of high-quality plant reproductive material (targeted forest and coffee species and varieties), from field collectors of seeds and cuttings, to nursery managers/workers.

In this case, the support of FOFIFA, SNGF, and SFCC, among others, will take the form of: (i) specific advice on coffee varieties and shading species to be grown/replicated in each nursery; (ii) hands-on support in the setting up (during Y1) and management (Y1 to Y5) of the nurseries; (iii) technical guidance on other issues relevant to the success of the nurseries, such as the production and use of bio-manure and biocides. This technical assistance will be delivered through: (i) ad-hoc, specialized missions; (ii) in the context of FOFIFA/SNGF/SFCC participated capacity-building events; or (iii) by sourcing relevant knowledge/information directly from the national research centres and SFCC network.

The nurseries will be organized at community/group level to cater for the needs of the community/groups? members selected for participating to the pilot for gradually replacing old coffee trees/shrubs and increasing planting density; for planting new shading trees/shrubs; and for producing bio-manure and biocides. The group/community will take responsibility for the setting up and running of these facilities ?under overall project guidance. The multiplication of these production-supporting facilities by the private sector (on a long-term base and as a permanent business) will be stimulated by the project to ensure return from project investments and a consistent and long-term supply to local community?s members of: (i) the seedlings needed for permanently rejuvenating/intensifying their coffee units; (ii) shading trees to grow coffee according to more sustainable practices; and (iii) the quantities of manure and biocides needed to support overall restructuring of the coffee value-chain on a more sustainable foot.

Action 3: Developing existing irrigation infrastructure and piloting waters recycling facilities

This will be a key intervention to ensure: (i) the sustainable growth and production of the (progressively) rejuvenated coffee production units, including both coffee shrubs and shading trees/shrubs; (ii) the operations of the back-up nurseries to be established at village/group level, and of

(iii) any new subsistence crop that the project will want to introduce or expand in association with coffee. In light of the extensive surface covered by the project, the many areas of work envisaged and the limited timetable and financial resources available for this intervention, irrigation facilities will be installed in pilot/demonstrative coffee production units/farms in each of the four landscapes so as to show to coffee growers: (i) available irrigation technology, (ii) best practices on water use/management ?both on individual and collective terms, (iii) advantages of irrigation etc. While the project nurseries will be equipped with basic irrigation infrastructure (simple water-tanks and ?low pressure? -0,1/0,3 bars- water distribution systems[30]), for larger surfaces (such as those of pilot/demonstration farms/production units) more sophisticated irrigation systems, alternative to, or integrating, current ones, will be tested. The choice of the irrigation system to be experimented will be assessed by irrigation specialists during the initial phase of the project. The selected technology should however be such as to allow its adoption by as many coffee producers (single or associated) as possible; be cost effective; and take into consideration also its proficient use by other existing crops intercropped with coffee (such as rice, maize, root tubers, vegetables) or selected a new (such as fruit trees) by the project to eventually integrate incomes from coffee growing. Besides the larger irrigation interventions at production plots described above, simple techniques for recycling/re-using effluents from households will also be introduced and piloted/tested (procurement investment window under Action 8 below) in some of the communities targeted by the project ? for instance, one community in each region. Recycled waters could be, for instance, used to water either family-based or community-based vegetables-gardens (to help feeding, with healthy food, coffee farmers? families). SFCC holds a useful background in this area, which could be proficiently utilised by the project.

As an overall project objective, thirty-two producer organizations in the target landscapes (to work as demonstration plots/farms on efficient irrigation and the most concerning issue of wastewater from mills and fields as well as watershed runoff) will be fully equipped with irrigation and water treatment facilities to cover a total surface of 1000 ha/project by the project?s end. Similarly, all the 12 project nurseries will be equipped with basic irrigation infrastructure. In at least 8 communities pilot experiences in recycling/reusing effluents from households (and entire or a portion of the community) will be introduced/developed and piloted as part of the applications submitted to the procurement window under Action 8. In addition, and in response to the water needs of the local population, especially in the driest areas of the target landscapes, the project will contribute with investments for water harvesting/storing equipment (e.g. lined reservoirs dug in the ground and covered with a waterproof liner to collect rainwater and store it; tanks or reservoirs) to increase water availability for human consumption in the target communities.

During Y1, under the overall guidance of the project team, at least 32 applications to procure alternative/new basic irrigation equipment/wastewater treatment facilities will be approved, A minimum of 32 producer organizations/communities will be selected and equipped with the irrigation equipment/effluent recycling and wastewater treatment facilities as from Y2, benefiting coffee production and processing in approx. 1000 ha for the entire project.

The project will have overall responsibility, jointly with local communities/reference groups, for: (i) selecting the applicant POs/communities where to install effluents recycling equipment; (ii) procuring

all needed water irrigation/recycling materials/equipment; (iii) monitoring proper usage and estimating impact of installed pilot irrigation/recycling systems/equipment and investments; and (iv) in delivering technical assistance, including of training when required, on the proper use of water and watering facilities.

As for local communities/producer groups, they will retain responsibility for: (i) supporting their members in the day-to-day management of installed irrigation and of the infrastructures/ equipment to reuse/recycle liquid effluents; and (ii) making sure that the best practices recommended by the project on water usage are enforced at farmland plots and communities/families? level.

Action 4: Upscaling intercropping (coffee shrubs intercropped with shadow trees and subsistence vegetable and fruit tree crops)

The project will: (i) sensitize/educate coffee project?s beneficiaries about the advantages from using shading trees to increase both overall sustainability of the coffee production process and final coffee quality; (ii) support production, through community-based nurseries, of shading trees/shrubs that will be then transplanted into coffee production units of the beneficiary farmers; (iii) back-up distribution of shading materials from nurseries to (selected) coffee production units; (iv) supervise production (at nursery level) of shading vegetative materials and its correct use by final beneficiaries in their coffee production plots in terms of: species suitability based on multiple benefits (e.g. climate-adapted, ecological function, BD conservation, cultural value, potential socio-economic uses), tree positioning, tree planting operations, consistent watering and trimming etc. The utilization of shading-trees in production plots should follow the ?3-layers? approach: (1) taller trees, derived from local species, acting as overall ?shading umbrellas?; (2) lower fruit trees/shrubs/climbing plants (e.g. vanilla), from local species, providing both shade at a lower level and food for growers? families self-consumption or for sales on the domestic market; and (3) coffee shrubs. South-South exchanges could be promoted on this specific subject to have coffee producers from other countries to explain to local coffee growers the advantages of using this approach and techniques/practices to put them in place. An adequate coffee-intercropped plants ratio will be defined in each local context to avoid competition for nutrients and lower coffee yields. The project staff will ensure the undertaking of: (i) regular visits to the pilot production plots ?to make sure that planting and maintenance operations are implemented correctly by beneficiaries adhering to the pilot scheme; along with (ii) specialised training of both groups/communities? staff and members.

The target for this specific activity is strictly linked to the works to be undertaken under Action 1, meaning a number of shading trees/coffee seedlings/fruit tree seedlings and vegetable root/seeds that is sufficient to rejuvenate/intensify/diversify a maximum of 312 ha/year of agroforestry coffee systems in each landscape as from Y2 of project?s operation up to a total of around 5,000 hectares by project?s closure. This would mean an amount per nursery (both produced in the established new nurseries and acquired in existing public/private ones) capable to meet the needs in shading materials of about 2,940 /nursery/year (from Y2 to Y5), considering that on average it will be necessary to plant shadow tree

seedlings in a third of each hectare, since most of them already have shade trees, and with a maximum density of 140 shadow trees/ha.

The plant materials to be used to shade coffee production units will be derived from species (trees/shrubs) already employed locally to this end or recommended by local research stations/private operators focusing on sustainable coffee growing practices. However, the project will also take into consideration experiences from external countries, should conditions for using these species exist locally and should this experiment not put at risk future survival of local species. The Global FOLUR IP and SFCC network could eventually facilitate experiences in this area from other countries members of the networks. Shading trees/shrubs that can contribute to improve livelihoods of local communities (as a source of food or otherwise marketable goods) will receive priority attention. The overall responsibility for producing and distributing targeted vegetative materials will fall with the project nurseries, as per what is already described above under Action 1.

Action 5: Improving harvesting operations

Coffee cherries harvesting practices currently in use within the 4 target landscapes will be assessed during the initial phases of the project to find out whether they could be improved for bettering their overall performance, eventually decreasing harvesting costs, and enhancing final produce quality. Any proposed improvement as a result of the assessment?s work will be put forward during the capacities-building exercises described above. Practical demonstrations through which new/improved practices/techniques would be proposed/demonstrated will be held in each region, ideally making use of ?pilot/demonstration farms/plots?. SFCC will support this action, thanks to the ?SFCC?s Manifesto? contents which provide clear indications on the requested degree of maturity of coffee cherries at harvest, along with desirable picking techniques. Specific harvesting technologies and/or practices in use in other coffee producing countries where the SFCC network has been operating will be proposed also in the context of the project.

The overall objective is an improvement of the quality of harvested coffee in the target areas by the end of the project (Y5). This will be shown/proved by full compliance of no less than 20% of exported supplies sourced from surfaces covered by the project to the SFCC?s Manifesto indications. Further, no less than 5,000 farmers/pickers will be trained (attendance of about 3,000 coffee producers to FFS and subsequent per-to-per knowhow dissemination with a ?foci? model to the rest of target farmers) on subjects related to this area of work by Y5 and through hands-on, practical training (both on ?pilot plots? and in beneficiaries? properties).

While practices in use for harvesting coffee will be eventually upgraded through hands-on/ theoretical training sessions/demonstrations to be organized jointly with target groups/communities and, eventually, in collaboration with the SFCC, the organization/planning of the harvest by farmers will be a task for each target group/community. In order to rationalize the processing and ensuing

trading/commercialization of coffee supplies, in fact, it will be imperative that a strict planning of the coffee harvesting operations for each member of the group/community be undertaken. This will be the responsibility of each group/community. The project will ensure that at least one representative of each target group/community be trained also in this area, to avoid that unripe or otherwise damaged beans are harvested and delivered for their further processing and commercialization. The transport of harvested (and eventually dried) supplies to concentration points where coffee will be received, weighted, graded (and, eventually dried) before it is marketed, will be another issue that will have to be planned and supervised extremely carefully by the target group/community.

While the project will have the overall responsibility for training representatives of the target groups/communities (through ToT) on issues relating to improved, sustainable harvesting and post-harvest storage ? including of their planning - with the target groups/communities would lie the task of making sure that acquired skills/knowledge are spread among their members (farmers/pickers) and that the transport operations required to concentrate the harvested supplies to final trading points (to be located c/o centralized points serving all groups/communities? members), are implemented according to best practices and to the indications provided by final (domestic or external) buyers ?eventually procured through the project.

Action 6: Upgrading reception of picked cherries and ensuing process

During the initial phase of the project, practices currently in use within the 4 landscapes related to the drying/first-processing of coffee harvests will be assessed to find out whether they could be improved in view to eventually decrease drying/first-processing costs, improve their overall performance and enhance their final produce quality. As a result of the assessments, improvements will be proposed both in relation to coffee supply sales on the domestic market or, eventually, on external markets. It has to be noted that the processing technology mostly in use at present in target regions of Madagascar, carries a first-processing of picked cherries making use of the ?*voi s?che/dry processing*? technology, which produces a final product (?natural coffee?) that is reported to be increasingly appreciated by consumers on Western-import markets. Therefore, at least for a share of the project's coffee supply, no major changes might be requested, at least as far as overall approaches and technologies are concerned. However, initial assessments by the project staff and technicians will determine if, and which kind of, improvements could be introduced. However, any new suggestion will have to be proposed only after having taken into very close consideration environmental criteria linked to: (i) amounts of water to be used for processing and its availability; (ii) polluting effects of water used in the various processing technology recommended; (iii) potentials for reusing processing liquid effluents and remaining solid organic residues. Whatever the outcome of the ?facts-finding? assessment to be undertaken in the early phase (months 1 to 6) of this project, action will be taken to:

? Strengthen group/community centres where picked coffee cherries are received from members, graded and undergo a first-processing. To this end, the project will make sure that these centres are endowed with skills/capacities and facilities (for receiving, washing, drying and storing cherries)

allowing for: (i) an adequate grading of the cherries received and (ii) their further processing to keep, if not improve, their quality at harvest. This might request: (i) investments to upgrade/expand existing washing/drying/storing facilities at group/community level; and (ii) capacities building of the persons/staff who, in each group/community will have the responsibility for all post-harvest operations of members? harvests.

? Build-up farmers? capacities whenever post-harvest operations are undertaken at a farm/householder?s level. Project investments at individual farmer?s level in post-harvest facilities are, instead, not recommended as centralized operations (by producer groups/communities) would have to be favoured in light of their higher cost-effectiveness.

From what underlined above, capacities-building will play a crucial role in improving the state-of-facts in this specific area of work. To this end, the wide range of knowledge and skills detained by the SFCC in this area (also thanks to the many coffee producing countries members of the SFC-network), the Coalition support will be relevant and appropriate.

Action 7: Training on coffee value chain development

The project will design and implement an **overarching capacity-building program** on sustainable (environmentally sound, socially beneficial and economically viable) coffee value chain development in the target landscapes, from plant material collection (wild forest species and crop varieties), nursery production, forest and agroforestry planting, crop management, harvesting and processing. Extensive and continuous capacity building activities will be required to ensure that more sustainable coffee production, post-harvesting, processing, and marketing practices are acquired and adopted by the farmer organizations targeted by this project. To this end, the project will envisage two types of training: (i) Training of Trainers (ToT) to ensure a critical mass of expertise among public and private extension providers (e.g. women and men technicians from deconcentrated technical services, NGO, lead farmers, coffee POs and business players) supporting individuals and producer organizations; (ii) the strengthening and establishment of new farm-field-schools (FFS) to act as ?demonstration farms/plots? in each landscape where target coffee producers will be exposed and participate in the demonstration of sustainable production, post-harvesting and processing practices; (iii) the organization of forest & farm business incubation training program for producer organizations (Output 2.1.2). All training (included Outcome 2.1.2 and Outcome 2.1.3) will have a gender-balance objective, and training methodologies and tools will specifically consider women requirements. In this sense, the project will build on the existing best practices on gender learning, such as the Gender Action Learning System (GALS), a community empowerment methodology that uses the principles of gender inclusion to improve the incomes, as well as the food and nutritional security of vulnerable people while respecting gender equity, that was piloted by IFAD under FORMAPROD and expanded under DEFIS in three of the four target regions (Amoron?i Mania, Fitovinany and Vatovavy).

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Training of Trainers (ToT) program: ToT modules on the above themes will target different stakeholders (e.g. managers of POs and business companies, community-based organizations, and women/men associations, lead farmers, public extension agents, NGOs, researchers, etc.) according to their expertise and area of work.

Themes to be covered by both ?hands-on/practical? and ?theoretical? ToT training sessions will relate to nursery production and planting of seeds/seedlings/cuttings from suitable coffee varieties and shadow trees, coffee crops production, post-harvesting, processing, and marketing, by making use of approaches/practices more sustainable than those currently utilized in target project?s areas. Besides sustainability issues at large, themes of the training will relate to:

a) Selection of suitable wild plant species and crop varieties according to CC impacts and adaptation needs, field collection techniques, high-quality nursery production protocols, and efficient planting techniques to increase soil water availability and seedling survival.

b) Climate change modelling and adaptation recommendations for the local context (environmental and socio-economic context in the target landscapes) and throughout the coffee value chain steps.

c) Coffee production approaches following principles of integrated-diversified production, agro-ecology, climate-smart agriculture, agroforestry and, specifically, coffee production-under-shade. Attention, during the training, will be particularly given to (i) soil fertility maintenance/ enhancement; (ii) trees trimming and keeping; (iii) production and use of low-cost compost and biocides; (iv) plots intensification (with coffee shrubs and shading trees) and best exploitation; (v) water conservation and rational use of scarce irrigation waters; integrated pest management techniques; (vi) intercropping species/varieties selection, planting pattern, and management techniques.

d) Impact monitoring and evaluation system to measure the effectiveness of FFS in terms of resource allocation, participation, outcome and impact; the use of e-FFS monitoring tools, such as android mobile-based data collection and management system to ensure seamless and near-real-time data collection and reporting of FFS performance, building on FAO successful experience in other countries.

The PMU will hire four experts with international experience in the different training modules, who may be proposed and selected with the support of SFCC, the Global FOLUR IP, and members of the Forest and Farm Facility (FFF) partnership (FAO, IIED[31] and IUCN). The experts will design the contents and training methodologies for each module, considering the NRM governance, climate projections, ecological and socio-economic context and gender-related specificities of the target areas. In addition to training in specific technical issues, the modules will provide knowledge on teaching methodologies and tools suitable for different local groups, with a gender focus, and including literacy issues.

While the project will retain overall responsibility for undertaking this specific action with the support of national expertise (e.g. FOFIFA, SNGF, KMCC, Research and training institutions, private companies), the SFCC will support it by involving private coffee operators - producers, traders, roasters from countries other than Madagascar - whose operations are guided specifically by certified sustainable principles/practices. SFCC assistance will be provided both by (i) participating in/proposing-organizing capacity-building events; (ii) taking part to demonstrative works (in pilot units or elsewhere); and by (iii) sourcing/making available knowledge, experiences and skills already existing on this area within the SFCC?s network.

It is expected that at least one ?Training of trainers (ToT)? program including the six modules takes place over the second half of Y1/first half of Y2 with the aim to cover the whole production season. Around 20 persons/landscape, half of them women, will take part to the ToT modules, for a total of 80 persons[32] educated to act as trainers as from Y2. At the end of the training, specific groups of master trainers and facilitators (including both women and men in each group) will be created for each type of activity supported by the project (e.g. collection and conservation of high-quality reproductive plant material with maximum genetic diversification and nursery production; innovative techniques of agroforestry cultivation of shade; processing techniques, conservation and packaging of coffee beans; etc.). In order to make sure that trained trainers are up-to-date on the latest developments on sustainable coffee production/processing/marketing, a second ToT will be organized at the end of Y3. ToT courses/modules will include both theoretical and practical (hands-on) sessions.

Trained trainers (public and private) will, in turn, act as lead trainers and facilitators of regular FFS training events over the following years of the project. TOT will enhance, on the one hand, the capacity of staff from deconcentrated technical services on critical coffee VC issues and, on the other hand, will help compensate public staff constraints by training a critical mass of trainers from local NGOs, lead farmers, POs and local enterprises, that will be distributed in remote areas of the target landscapes, ensuring a more continuous provision of extension services and technical assistance throughout the production, processing and marketing stages of the value chain. The core mandate of the trained trainers will be to address the ecological, social and economic challenges of scaling-up ? both at the level of enabling individual producers to improve production, but also at a landscape level in the number of producer organizations they are likely to support.

The project will support all trained trainers in the search for mechanisms enhancing the economic sustainability and institutionalization of their services beyond the life of the project, such as the creation of cooperatives or associations of training providers (in this case in the private sector) whose work can be covered by small fees of FFS members.

Farm-Field-Schools (FFS): The Farmer Field School (FFS) methodology is recognised as an excellent complementary and reinforcing approach to traditional agricultural advisory services to foster livelihoods in highly diverse smallholder and subsistence farming systems[33] like those in Madagascar. Over the recent past the government of Madagascar has adopted FFS as a major tool to

sustainably manage agriculture problems (e.g. the extremely destructive fall armyworm pest). FAO and project partners have systematically supported the government to introduce the FFS approach in the country. The project will build on the on-going experience of IFAD PROSPERER and DEFIS projects ? mainly in Vatovavy and Fitovinany regions ? and GIZ/PrAda project in Atsimo Atsinana to strengthen on-going schools, create new ones, and run multi-year FFS and FBS (Farmer Business Schools) learning programs for coffee producers and producer organizations.

The trained master trainers and facilitators (approx. 80 trainers) on sustainable and zero-deforestation coffee production, processing and marketing, will support learning activities in about 100 FFS (both strengthening already existing ones and establishing new FFS) involving 25-30 coffee producers each, targeting a total number of 3,000 producers in the target landscapes. FFS learning stages will be organized along the main stages of the coffee value chain, including: (i) recognizing priority wild forest species (also including Coffea wild species) for the collection of plant reproductive material of forest restoration and shadow trees for agroforestry coffee plantations, and applying good collection protocols to maximize genetic diversification of healthy seeds and cuttings; (ii) the nursery production and planting of climate-adapted coffee varieties and shadow tree species, (iii) climate-smart and ecologically sound coffee production approaches (e.g. soil fertility maintenance/ enhancement; trees trimming and keeping; production and use of low-cost compost and biocides; plots intensification (with coffee shrubs and shading trees), diversification (fruit trees and other crops) and best exploitation; rational use of scarce irrigation waters; (iv) post-harvesting and processing; (v) environmental- and social-responsible business management, health and quality produce, certification and marketing. Regular training events will take place in the key production and post-harvesting steps to ensure the effective adoption of the defined climate-adaptive management practices.

FFS training will follow a ?foci model? through which participants grow in the immediate neighbourhood of the farmland plots that host FFS learning activities. The aim is to spread sustainable coffee VC development and implementation knowhow among project beneficiaries and consequently gradually expand among the rest of coffee producers throughout the target landscape areas. The FFS learning approach and tools will have as a major objective to enhance collaboration and associative spirit of participant coffee producers, and increase their interest in being part of strong coffee producer groups that will benefit from business development training (Forest and Farm Business Incubation (FFBI) training in Output 2.1.2) as the best strategy to improve production and increase market bargaining power. The training program will establish FFS with specific groups (women and mixed) of trainees for each type of action: (i) groups of collectors of reproductive plant material of forest species and coffee varieties; (ii) specific groups of nursery producers; (iii) groups of coffee growers and processors in a diversified agroforestry system; (iv) groups of producers and installers of locally adapted equipment.

?Participatory Rapid Assessment? comprises a range of visualization, interviewing and group work methods, proven valuable in enabling people to express their views and share information, in uncovering their realities and priorities, and in stimulating discussion and analysis.

The lead trainers and facilitators will support FFS members in the definition of environmental, social and economic indicators, linked to the different value chain stages from production to marketing, to help monitor (following an adaptive-management approach) in a participatory way the performance and impact of FFS interventions. At the beginning of the FFS-training, baseline data will be collected, and monitoring results will be checked against the baseline data. The project will propose monitoring tools easily understood by all stakeholders, enhancing their involvement, simple and cost-effective including e-FFS mobile data collection and visual tools. In this way, farmers gained access to improved technologies and practices that facilitate understanding of problems, causal relations between applied measures and results, but also helps in better seasonal planning.

Action 8: Investments for procurement

By mid-Year 2, once the first group of FFS master trainers/facilitators, and FFBI trainers have been trained, the Landscape Steering Committees (LSC) will organize awareness events to inform coffee producers and POs about the availability of project resources - through regular calls for applications for procurement investments - to support FFS learning programs, and to make available climate-smart plant material, equipment and inputs to help farmers and producer organizations adopt sustainable coffee production systems and develop profitable and sustainable local enterprises and organizations.

The PMU will establish a financing mechanism to facilitate access to training/technical assistance, equipment, plant material and inputs, for project beneficiaries. The PMU will develop an Operational Manual (OM) for procurement support in French (FAO has already developed OM models in French in the framework of other GEF projects) outlining: (i) the funding range of investments under each window; (ii) the investments eligibility criteria according to area targeting (priority landscapes); the climate-adaptive and sustainable (ecologically sound, socially beneficial and economically viable) agroforestry coffee production, processing, marketing practices promoted by the project; (iii) the beneficiaries eligibility criteria, including associationism, social responsibility (e.g. labour and gender), demonstration of clear land title to their farms; (iv) the administrative and financial processes to be used. To this end, the local project teams in each target landscape will train the hired facilitators (women and men) to inform the details of the call for tenders and the application criteria and mechanisms to potential beneficiaries, and to assist those interested in preparing the necessary documentation, including the writing of the management/business plans that will justify the effective use of the procured investments.

The PMU will issue regular Calls for Applications in the local languages through the usual channels used by the members of the SC in the target landscapes (e.g. the Web, SMS mobile messages, bulletin boards in local public and NGO offices, workshops, information sessions, targeted campaigns and direct outreach of vulnerable beneficiaries in remote areas), specifying: (i) the priority areas for eligible investments; (ii) the type of investments; (iii) the maximum amount of support available; (iv) the compulsory co-financing in cash and/or in-kind required by the applicant; (v) the deadline to submit applications; (vi) where to obtain the *Guidelines for Preparation and Submission of Applications*. The

applications should be prepared in French using a ?*procurement support application form*? developed by the project. The PMU will provide assistance to applicants with limited capacity to fulfil the form (due to language, literacy and technical constraints). The PMU will preselect the eligible applications based on a list of rejection criteria, and a Procurement Selection Committee (including representatives from PMU, MEDD, MINAE, and one or two partner experts in the matter of the Call and coordinated by the National Project Coordinator) will evaluate and select the applications that rank higher according to scoring criteria. The PMU will use the list of ranked applications approved by the Committee to establish the order of priority in which applications will receive support within the limit of available financial resources under each Window. In order to ensure gender balance, between 50 percent and a minimum of one third of beneficiaries receiving support should be women or women-led[34] producer organizations.

In order to ensure the continuous training and technical support that is needed for the effective and long-term adoption of climate-adaptive, sustainable practices the selected applicants will be asked in the ?Procurement Applicant Agreement or Contract" to participate in the FFS and FFBI training programs and to undergo a defined number of mandatory coaching sessions by the hired experts. In the case of applications from POs, cooperatives or local enterprises, they will be asked to undergo training on Rural Invest, a FAO tool that builds the capacity of rural entrepreneurs to assess the short and long-term profitability of their business. The mandatory coaching will include face-to-face sessions carried out by PMU staff and hired experts, and some on-line coaching by experts, the latter may have more weight depending on the evolution of the Covid19 pandemic.

The project will sign a contract or letter of agreement (LoA) with MINAE/FDA, with a solid track record and leading role in the financing of FFS, implemented by the Agriculture Development Services (CSA) and the Agriculture Organizations Syndicate (SOA) network in baseline investment projects (e.g. IFAD/DEFIS) and other GEF projects (e.g. FAO/TEFIALA). LoA will include funding to cover management costs, as well as funding to cover the cost of trainers, technical assistance, and the equipment and inputs necessary to establish the field schools in Y2 and facilitate them over the next 4 years. The project will dedicate USD 210,000 for approx. 100 FFS for approx. 5,000 coffee producers (attendance of about 3,000 coffee producers to FFS and subsequent per-to-per knowhow dissemination with a ?foci? model to the rest of target farmers) in the targeted landscapes.

Specifically, the Calls for Applications will be organized around the following procurement windows:

Procurement Window on Tree Nursery Production: This Window will be open for local community associations and producer organizations (mainly targeting women-led local organizations), with interest in the production of suitable coffee species/varieties, shadow tree species, and complementary fruit tree crops. This window will include a total amount of USD 270,000 for approx. 12 community nurseries (5 in each landscape). Eligible investments will be the equipment and inputs for the installation and effective operation of the nursery, such as: (i) high quality germplasm, (ii) nursery structures for shading, pest and humidity control, soil mesh to prevent the growth of weeds, and office/storing/small

laboratory room; (iii) seed storing and refrigerator facilities; (iv) propagator boxes, seed beds, seedling containers; (v) irrigation equipment; (vi) culture substrates, bio-manure, composting equipment, organic fertilizers, plant growth regulators, bio-phytosanitary products; (v) work tools; (vi) specialized biocides and other suitable products for bio-manure. It is expected that community nurseries will absorb at least 40 percent of the required seedling production (5 M seedlings of suitable coffee varieties, with a planting density of approx. 2,500 plants/ha) to replace aged coffee trees and unsuitable Robusta and Arabica varieties (poorly adapted to climate conditions and inadequate in relation to the productions and qualities required by the target markets) and 100 percent of seedlings required to ensure effective shadow tree cover (519,000 seedlings, with a planting density of approx. 138 trees/ha) and fruit tree crop diversity (80,000 seedlings of fruit trees, such as banana, citrus, mango, avocado, etc., with a planting density of 16 trees/ha). The rest of seedlings will be acquired in existing nurseries (mainly FOFIFA nurseries) ensuring high quality coffee seedlings of suitable Robusta and Arabica varieties. The local nurseries supported by the project will initiate their operations using climate-adaptive, high quality coffee varieties? germplasm (and fruit trees) provided by FOFIFA, and plant material collectors will collect plant material from selected shadow tree species, following predefined protocols (e.g. establishing several collection sites with healthy populations and individuals of targeted species within nearby regions of provenance with similar ecological conditions to the restored sites, with the aim to ensure: authenticity ? good identification of mother plants - and high genetic diversity). Once the nurseries are operative, they will select cuttings from coffee plants showing high yielding capacity and resistant to climate and pests in the target coffee production land plots, so as to carry out vegetative propagation processes in the nurseries.

The application forms should include a simple business plan with indicators and milestones to demonstrate the suitability of the selected area for the installation and functioning of the nursery and the profitability of the intervention. Applicants will be asked for co-funding in terms of cash and/or in-kind contribution, mainly in terms of labour days for nursery installation and management and the provision of various nursery inputs.

It is expected that *nurseries* will be set up *by early Y2* in all the target regions*,* once the applications of the specific window for nurseries are approved. By end *Y2* all communities-based nurseries will have started production of seeds, seedlings and cuttings of those shade forest species, fruit trees, and coffee varieties that are climate-adapted in the evaluation that will be carried out in Action 1. The selected applicants will be asked in the ?Procurement Applicant Agreement or Contract? to participate in the FFS and FFBI training programs and to undergo a defined number of mandatory coaching sessions by the contracted organizations, including the public research institution FOFIFA (mainly as far as coffee species and varieties is concerned), and other private organizations with high demonstrated experience in the production of high-quality seedlings and planting techniques of wild tree species, such as OmniVerdi, KMCC and SFCC. Business training will have a major focus on the long-term sustainability of nurseries, supporting managers to help them turn these facilities into true commercial ventures to be run by the group/community as a whole or by single members of the same group/community.

Procurement Windows on Agroforestry Coffee Production: this Window will facilitate access to plant material, equipment and supplies for the targeted coffee producers and POs, including: (i) high quality plant material of coffee varieties, shadow tree species and fruit trees needed to rejuvenate and/or put under production target farmers? production units (current and/or new); (ii) tree planting tools (e.g. pick and hoe, auger); (iii) irrigation equipment (e.g. simple water-tanks and ?low pressure? -0,1/0,3 bars- water distribution systems/facilities; infrastructures/basic ion exchange system equipment to reuse/recycle liquid effluents); (iv) cultivation inputs (bio-manure, organic fertilizers and organic pest treatment); (v) crop management, IPM, and harvesting tools (container, tarpaulin or hessian square) to help farmers undertake sound-harvesting practices, separate quality product (e.g. bright red color ripe red cherries, avoiding over-ripe, immature, insect-damaged and fallen to the ground cherries, as well as damages to the leaves and primary branches) and attract better prices on the market; (vi) water harvesting equipment for drinking water; (v) cherry storage and drying equipment. This Window will include a total amount of USD 1,550,000 to cover coffee production improvement costs in approx. 5,000 ha.

The application forms should include a simple business plan with indicators and milestones to demonstrate: (i) the suitability of the selected area for coffee production improvement/expansion ensuring suitable agro-climatic conditions and zero-deforestation; (ii) the diversified shadow coffee agroforestry systems and practices supported by the project; (iii) the profitability of the intervention. Applicant will be asked for co-funding in terms of cash and/or in-kind contribution, mainly in terms of labour days for land preparation (halls digging and manure spreading), seedling planting and watering, tree pruning, equipment installation, crop management, gleaning, and the provision of various production inputs. It is expected that the coffee *production improvement* activities will start in *Y2*. The selected applicants will be asked in the ?Procurement Applicant Agreement or Contract? to participate in the continuous FFS training programs and to undergo mandatory coaching sessions by the contracted experts.

Output 2.1.2*: Market diversification and access for sustainable coffee value chains in the target landscapes enhanced through a public-private-partnership model around environmental and ethical certification standards.*

As global demand for coffee continues growing, there is a unique window of opportunity for Madagascar to rejuvenate, transform and develop its coffee sector into a more sustainable and climate-resilient one, in order to support economic growth while preserving the environment. Following the liberalization of Madagascar?s coffee market in the late 90s, the national coffee sector entered into a crisis that significantly affected its contribution to Madagascar?s GDP. Coffee however remains to date the fifth export commodity in terms of value and generates an average of 9.5 million USD of earnings yearly since 2010 as well as income for about 380,000 farmers and farm workers. Revitalizing Madagascar?s coffee production remains an untapped opportunity, as studies show that the coffee sector will continue to expand globally, and that Madagascar will be among the LDCs[35] with the highest opportunities for expanding VSS[36]-compliant coffee production for multiple benefits.

The project?s objective will be to increase the country?s current coffee export records by 10 % by project?s closure (from around 2 300 MT as average over the last 5 years[37] to about 2 500 MT in Y5). In the same way, no less than 30% of supplies originating from the project and traded on the domestic market will carry, by project?s end (Y5), a certification logo that producers will obtain after compliance with the introduced Participatory Guarantee Schemes? (PGS) practices/dictates. It is expected that at the end of the project four PPP agreements between coffee producers and international buyers (with special focus on SFCC members) will be in place.

The project will act concurrently at two levels: (i) enhancement of the overall quantity of coffee produced under the project, to ensure consistent quantitative levels of supplies in the long-term; (ii) improvement of the qualitative features of the coffee supplies to ensure higher and better rewarded access to final markets. While quantitative targets will be pursued by putting in place concrete activities at production level (as per what highlighted at Actions 1 to 4 in Output 2.1.1), qualitative ones will be chased through the adoption of systems and practices /approaches capable to improve product?s overall quality at a processing, storage and trade levels -as per details provided in the context of Steps 2 to 4 described below. More specifically, the work on quality will be undertaken by introducing and adopting quality management systems/approaches already largely in use or in demand internationally, and by taking into serious consideration indications provided by product final buyers/markets. The work on quality, as much as the one for increasing the size of current coffee supplies, will be implemented through a mix of actions, including: (i) technical assistance, along with (ii) capacity-building work ?targeting either FFBI ?trainers? (through ToTs) or producers/processors (associated in the form of producer groups, associations, cooperatives, SME). Capacities will be enhanced through ?hands on? assistance -to be provided directly at level of the beneficiaries? production units, or by the ?pilot farms/plots? to be indicated by the same group/community. Finally, enhancement of domestic market access will be pursued through a mix of activities, including: (i) early assessments of domestic market opportunities for supplies available in the project areas the moment this project starts its operations ?to eventually commence prompt market operations to gain project?s beneficiaries trust and confidence; (ii) the educational-work (on quality etc.); and (iii) the installation and operation of 4 coffee micro-roasting units (one in each region covered by the project).

The project will engage with the coffee private sector players, which will be essential partners in the end markets of the value chain. Private sector partners identified at project design, which could be engaged in the early stages of the project include: (i) Producer organizations supported by the project in the target landscapes; (ii) Small, medium and large national and international agri-business companies active in the target landscape and other national and international stakeholders of the coffee sector, such as: cooperatives and SMEs (e.g. Sangany Caf?, an IDH[38]-supported initiative for an inclusive and enhanced coffee supply chain model), processors (e.g. TAF Madagascar- Taloumis group), producers (Akesson Group, Sangany society, SAMA society), exporters (Alza Import Export SARL, Kalfane and Fils SARL, Ramanandraibe Export, Deslandres et CIE SARL, etc.) and international private players (main focus on SFCC members); (iii) Stakeholders involved in organic agriculture, such as the Malagasy syndicate for organic agriculture (SYMABIO), fertilizers producers (Guanomad, Madacompost, Ze.O. Compost); (iv) Certification companies: Ecocert Group, Rainforest Alliance, Fair Trade Africa or Fair Trade International.

The works to be undertaken by the project to restructure the coffee value-chain at a domestic or external market level will be a major area of collaboration between FOLUR and the Slow Food Coffee Coalition (SFCC) and will focus on the improvement of domestic produce marketing and international market access. The SFCC is a Slow Food (SF) network including a mix of operators (30 coffee producers operating worldwide, along with several coffee roasters, retailers, importers, to final coffee brewers) aiming to create connections and improve relationships between producers and consumers, empowering farmers by increasing their visibility and promoting the identity and the knowledge of coffee. The SFCC Manifesto**[39]** highlights the following principles: (i) the preservation of the environment, biodiversity and ecosystems as a key factor of climate resilience; (ii) the application of agroecological principles in coffee production for food security; (iii) safeguarding fundamental human and labour rights and inclusiveness (e.g. gender, ethnicity, age) and transparency across the whole coffee VC; (iv) education and dialogue among all actors within the coffee VC, with knowhow sharing to raise awareness and empower everyone involved; (v) coffee?s specific origin (where it is produced and by whom) and traceability as proof of coffee quality and process optimization, from field to cup; (vi) the right to gastronomic pleasure (knowing how to appreciate the taste, aromas, and scents of coffee).

The project design expert on coffee VC contacted the SFCC coordinator to introduce the project objectives and propose a potential collaboration framework between SFCC and the GEF project. The design expert attended the SFCC Board of Experts - coffee operators who provide both technical and commercial back up to SF and Coalition?s affiliates - meeting in Turin (18 September 2021) where the potential collaboration framework was introduced, followed by initial discussions with specific SFCC operators with an interest in coffee production in Madagascar. A major output of this meeting was the creation of a SFCC working group, initially involving the SFCC coordinator and three coffee processors representing *L?albero del Caff?, Bfarm* and *Critical Coffee*[40] (but open to further members depending on the specific needs of the GEF project), to support project design in terms of joint actions and collaboration modalities between the GEF project and SFCC. Additionally, FAO, who has signed a multi-year broad MoU with SF in 2021[41], has included the GEF project in Madagascar as part of that collaboration framework, at the request of the FAO staff coordinating the GEF project design.

The project will follow a stepwise approach with the final goal to establish a solid private-public-partnership (PPP), establishing from the beginning a collaborative arrangement between end-market players (SFCC members with an interest in Malagasy coffee products) and producer/processing organizations, cooperatives, and SME operating in the target landscapes, in which the Government has actively taken part by making available supportive policies, NRM transfer and tenure governance mechanisms, infrastructures (to support both production and/or produce processing/marketing), along with technical and/or financial assistance ?in most cases, procured through the GEF project and other international donors assistance. While the end-market SFCC partner companies pursuing common environmental, social and business goals (*Coffee Coalition Manifesto*) shall gain from steadier linkages with suppliers, the target producer/processing organizations shall benefit from firmer connections to secure markets and access to technology, services, innovation and knowledge, contributing to pro-poor development (diversifying improved production, raising incomes, increasing employment opportunities, strengthening food security and generating indirect benefits for local communities).

The PPP will follow the SFCC model (Box 1), supporting inclusive agribusiness development for the domestic produce marketing and international commercialization of sustainable coffee certified under a ?Voluntary Sustainability Standard/VSS.

Box. The Slow-Food Coffee Coalition (SFCC) PPP model[42][42]

* *SFCC objective*. The Coalition?s goal is the setting up of an inclusive network capable to connect all the actors of the coffee value chain, from producers to consumers, united under a common goal: ?A *Good, Clean and Fair Coffee for All*?[43][43]. In particular, the SFCC intends to strengthen the relationship between primary producers and final consumers, so that the visibility of those who grow coffee increases; the identity of, and the knowledge about, coffee?s origin is promoted; and an overall higher awareness among those who drink it is created. In pursuing its objective, the SFCC implements the contents of the ?*Coffee Coalition Manifesto*?, which spells out the Coalition?s commitments, purposes and actions that can ensure the sustainability of the coffee production systems (which, on turn, is based on the establishment of harmonious relationships between nature and people). This way, coffee ?*ceases to be a simple commodity to become a vehicle for communication and for transmission of joint actions to achieve a better quality of life for all those involved in the coffee industry*? (Slow Food, 2021).

* *Working mechanism*. The SFCC foundation principles are based on the fact that: (i) all actors within the coffee value-chain have ***equal dignity***; and (ii) all activities undertaken inside this value-chain have to comply with ***strict sustainability principles*** (as per SFCC guidelines). This applies to production, harvesting and processing of the coffee, though also to its trade, which has to comply with precise *quality, traceability and ethical principles*. A minimum price (mirroring the one fixed by the Fair-Trade standard) is expected to be paid to coffee growers who are members of the Coalition, although the SFCC targets even higher prices, reflecting the coffee origin, its quality and produce traceability. While the coffee value-chain needs to be as short as possible, producers will need to be informed about prices paid for their coffee on final, consumers? markets. From their side, producers are required to be capable to evaluate the quality of their coffee supplies in order to establish fair trade negotiations with buyers based on the actual produce?s quality; the SFCC is expected to train farmers to this end. Overall, at a farming level, the SFCC?s objective will be to upgrade the quality and wellbeing of farmers, workers and their families and communities, while respecting the natural ecosystems (zero-deforestation coffee production), and the local indigenous traditions and cultures, including linkages that communities have with their territory. No discrimination based on the origin, sex, gender, political stand, nationality etc. of value-chain members is going to be permitted. Similarly, no exploitation of the work provided by minors, pregnant women and workers at large will be accepted.

* *SFCC examples*. A first example of the SFCC has been put in place at the end of April 2021, when the ?***Slow Food Coffee Coalition (SFCC) for Mexico, Central America and the Caribbean***? was created[44][44]. This regional SFCC, initially promoted by the Slow Food Community ?Cloud Forest and Coffee? and CAFECOL, intends to promote, through a complementary and inclusive effort, the creation of unique networks of the very varied initiatives currently existing in Mexico and in the several countries making up the Central America and the Caribbean regions. Networks? objective will be to promote differentiated foreign trade and internal consumption of coffee in each country, as a new strategy to improve the living conditions of producers and the conservation of the multiple environmental, cultural, and social benefits that coffee growing provides.

* *Benefits that can be expected from being part of the SFCC*.

The benefit	Description
Ethical	All partnerships established in the context of the SFCC will be operated

The **stepwise approach** can be summarized as follows:

Step 1	Value chain analysis
Step 2	Training on coffee business development and trade
Step 3	Procurement investments
Step 4	Public-private platform to drive collective impact of sustainable coffee communities in the target landscapes

Step 1 - Value chain analysis

At the start of the project (first 6-8 months of Y1), as part of the preliminary participatory assessments to best focus project?s work, SFCC will support the PMU team (staff and hired national experts) to better understand not only improvements required to enhance overall domestic or external trade (during the entire project?s life), but also to assess the immediate implementation actions needed for a quick increase of current levels of sustainable coffee production/sales by groups/communities working under the project?s umbrella. SFCC will provide specific and sound knowledge of (consumers) market needs and of assessed/validated approaches to meet existing market demands endorsing ?A *Good, Clean and Fair Coffee for All? principles.*

This value chain analysis will be, in fact, an important move to gain the confidence of coffee producers assisted by the project and to motivate them to introduce/adopt improvements to be recommended by the project (Output 2.1.1) ? especially in terms of ecologically-sound (?zero-deforestation?) plantations? rejuvenation/intensification and the adoption of new/more sustainable production and processing approaches/practices that are socially-beneficial and economically-viable.

While a careful eye will be kept on constantly increasing the coffee output from target farmers in quantitative terms, plenty of attention will correspondingly be devoted to quality issues, as they increasingly will determine final sales? potentials. This will be pursued through the identification of: (i) quality management systems that fit to the needs of current and future domestic and/or external purchasers; (ii) traceability systems to trace the product from ?farm to cup?. Works in this area should

also include the digitalization of these procedures to increase their long-term impact and effectiveness; (iii) a certification system capable to meet the SFCC Manifesto?s criteria and dictates that will be inspired/guided by Participatory Guarantee Schemes (PGS) that the SF has already tested in other coffee-producing countries; (iv) appropriate drying and processing approaches/technologies; and (v) a promotional tools by which the overall ?image? of the project?s coffee supplies is built up to properly value their origin, sustainability facets and qualitative features.

The report produced will be used by the PMU team to plan the actions to support the marketing of coffee products in line with SFCC standards and will also help develop the ToT training programs for FFBI trainers, and the FFBI training modules for POs and other VC operators. Step 1 results will also feed policy development needs (Component 1) in terms of standardized coffee VC development learning tools (MEDD and MINAE Coffee Sustainability Curriculum) and recommendations for subsidies and policies/regulations supporting environmentally-sound, social-beneficial and economic-viable coffee production systems.

Step 2 - Training on coffee business development and trade

The project will design and implement an **overarching capacity building programme** on market access-related issues as a fundamental step for the project to enhance domestic and/or external market accessibility for high-quality coffee production sourced from the target landscapes. This will complement the extensive and continuous capacity building activities on sustainable coffee production and post-harvesting developed under Output 2.1.1, to ensure the necessary business capacity and market knowledge of the targeted producer/processing organizations and SME that participate in the PPP. In the same way as in Output 2.1.1, the project will envisage two types of training: (i) Training of Trainers (ToT) to ensure a critical mass of private and public FFBI trainers (e.g. women and men technicians from central and decentralized public services, NGO, and private sector operators) providing training and technical advice to coffee producers and producer organizations; (ii) forest and farm business incubation (FFBI) training for managers of coffee production/processing POs, associations, cooperatives, SME, exporters and certification organizations to improve knowhow on quality management systems, traceability, sustainability, PGS certification and markets compliant with SFCC Manifesto.

Training of Trainers (ToT) program: Themes to be covered by both ?hands-on/practical? and ?theoretical? ToT training sessions will relate to managerial skills to develop sustainable coffee businesses and sustainable forest businesses (e.g. wood, charcoal, honey, wild silk, basketry, ecotourism linked to forest and coffee plantations and related businesses such as restaurants, hotels and shops) to enhance domestic and international markets accessibility for high-quality coffee production sourced from the target landscapes. Besides sustainability and quality issues at large, themes of the training will encompass business development needs on the referred value chains, in terms of:

(i) Cooperative/SME registration and development skills;

(ii) Market understanding and value chain analysis, business planning.

(iii) Management of quality ?both system and product related. Product quality management will also include assessment of quality through ?coffee cupping? exercises.

(iv) Traceability (which, although part of quality managerial systems, deserve a separate coverage as its operation is mandated in case of coffee traded internationally).

(v) Sustainability (both in a broader environmental, social and economic sense and applied to the coffee industry).

(vi) Certification: details on main certification schemes (such as: Organic, Fairtrade, Rainforest, 4C etc.) would be provided. The nature of the scheme would depend on the specific certification needs of the buyers to be eventually involved into the project.

(vii) Instalment/management and functioning of a first-party certification system/PGS, to certify project supplies compliance with SFCC Manifesto contents.

(viii) Negotiating sale/trade terms (price based on quality and origin, packaging/labelling/storage requirements by different buyers, payment conditions, bank guarantees etc.).

The ToT program will be led by SOA or another organization with high experience in business development (e.g. ONI Cooperative that have provided coaching services to several agricultural cooperatives in Madagascar under a USAID funded program). SFCC will support the ToT program with trainers from an ample assortment of professional expertise/skills (e.g. technicians experienced in coffee production/processing/trade; setting up of quality management systems; food traditions ?such as local cooks experienced in traditional cooking and foods; specialists on sustainability issues at large etc.), that will join other PMU hired experts from the national coffee operator Sangany Caf? (an IDH[45][45]-supported initiative for an inclusive and enhanced coffee supply chain model) and certification companies operating in Madagascar (e.g. Ecocert Group, Rainforest Alliance, Plan Vivo, Fair Trade Africa or Fair Trade International). Other experts may be selected with the help of the Global FOLUR IP, and the members of the FFF partnership (FAO, IIED and IUCN). An approximate number of 6 experts will design the ToT modules? contents and training methodologies, adapted to the national/local contexts and gender specificities of the coffee VC in Madagascar. In addition to training in specific technical issues, the modules will provide knowledge on teaching methodologies and tools suitable for the different ethnic groups, gender and literacy issues.

ToT will target approx. 40 professionals (half of them women) from POs, cooperatives and SMEs operating in the target regions (e.g. cooperatives, associations and POs producing Arabica coffee in the target communes of Amoron?i Mania region; cooperatives and POs producing Robusta coffee in the target communes of Fitovinany, Vatovavy and Atsimo Atsinanana regions); large coffee producers from the target regions (Akesson Group and Madagascar Robusta SAMA State in Fitovinany-Vatovavy region); processors (e.g. TAF Madagascar- Taloumis group); exporters (Alza Import Export SARL, Kalfane and Fils SARL, Ramanandraibe Export, Deslandres et CIE SARL, etc.); technicians

from central and decentralized public services dealing with agribusiness and trade/quality and certification standards; other national actors involved in organic agriculture, such as the Malagasy syndicate for organic agriculture (SYMABIO), PRONABIO organization, fertilizers producers (Guanomad, Madacompost, Ze.O. Compost), etc.

It is expected that at least one ?Training of trainers (ToT)? program takes place over the second half of Y1/first half of Y2, with the aim to cover the entire production season. In order to make sure that the trained trainers are up-to-date on the latest developments on sustainable coffee production/processing/marketing, a second ToT will be organized at the end of Y3. ToT courses/modules will include both theoretical and practical (hands-on) sessions. Trained trainers (public and private) will lead FFBI training events over the following years of the project. The core mandate of the FFBI trained trainers will be to address the ecological, social and economic challenges of scaling-up ? both at the level of enabling individual businesses to grow, but also at a landscape level in the number of businesses they are likely to support.

The project will support all trained trainers in the search for mechanisms for the economic sustainability and institutionalization of their services beyond the life of the project, such as the creation of cooperatives or associations of training providers (in this case in the private sector) whose work can be covered by small fees of FFBI participants (producer and small business organizations).

Forest & Farm Business Incubation (FFBI): The project will build on the Forest and Farm Facility (FFF) lessons and recommendations to design and implement a training program on business incubation for cash products - including coffee and other forest products and services, such as wood, charcoal, honey, wild silk, basketry, bio-manure and biochar, ecotourism businesses developed in Output 3.1.1. ? both in Madagascar and neighbouring countries. The FFBI will target approx. 70 coffee producer organizations/POs and 32 forest community groups (COBA and RAG, see Output 3.1.1) operating in the four target landscapes (both first-tier local organizations, associations, cooperatives, processing organizations and second-tier umbrella business organizations grouping several local POs and providing value-added processing and marketing functions for their members). The FFBI training will be guided by existing FFBI toolkits[46][46] produced by the FFF program, the GIZ/PrAda experience with Farmer Business Schools to strengthen the climate-adaptive entrepreneurial capacity of farmers in Atsimo Atsinanana region, and the training experience of SFCC members. In terms of PO organization development, the project will build on the *USAID?s Cooperative Development Program (CDP) and NCBA CLUSA**[47]***[47]*?s Creating an Environment for Cooperative Expansion (CECE) project* in Madagascar (in partnership with MICA and MENTP[48][48]) for the creation of a legal and regulatory environment enabling sound cooperative businesses development in Madagascar, and the best practices produced together with McCormick corporation and other partners for the couching and

setting up of successful agricultural cooperatives and cooperative unions (vanilla, dairy, zebu, palm oil, pink peppercorn, beekeeping, and others).

The FFBI training program will be organized around several learning modules:

Module 1 ?Market understanding and VC analysis? on how to define and assess the needs of potential coffee POs? client businesses (demand assessment): this module provides a set of logical steps and tools necessary to categorize clients, assess their needs, and map out the business environment within which they are operating. At the end of this module the PO should have a clear understanding of the defining characteristics of the type of entrepreneurs and value chain with which it is likely to be working.

Module 2 on the product development: 1) quality management systems, traceability and certification schemes; 2) qualitative improvements of the product or service or of the way it is marketed so that the product becomes more appealing to consumers (e.g. introducing new designs more attractive to buyers); 3) more effective construction/installation and proper running ?technically and financially - of processing and marketing technologies (e.g. solar dryers, pulper/mucilage removal unit, micro-roasters); 4) adding value to products through diversification (e.g. diversifying in terms of: crop diversification, ecotourism business, and production systems that also sells carbon credits from an area of conserved forest, etc.); 5) application of good food hygiene principles (including of HACCP) to post-production phases of the value chain; 6) improved microbiological and chemical analytical laboratory capacity.

Module 3 on how to structure, staff and finance a small/medium enterprise (coffee producer organization, cooperative) to meet demand: This module will take participants through a four steps self-assessment: 1) Assessment of the sort of staff skills required to develop core services that address target clients? needs; 2) Assessment of business infrastructure, equipment and inputs needed; 3) Presentation of options to generate funds for supporting the delivery of business incubation services.

Module 4 ?business planning?: this module will provide specific training on the internal capacities of PO managers including: (i) entrepreneurship, organizational management and business plan development; (ii) financial literacy to establish management accounting skills and investment readiness, and basic literacy in remote community groups; (iii) investment options, market and customer research; (iv) ecological-sound and sustainable resource management, planning and conflict resolution; (v) leadership and business management capacity; (vi) marketing and brand development; (vii) risk management; (viii) quality assurance processes; (ix) labour standards and human resource management.

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Module 5 on how to enrol coffee PO with different types of clients through fair, inclusive agribusiness models (the management of PO-client interaction), and Access different market segments.

Module 6 on how to measure and communicate (to client businesses, consumers, donors, and public administration) what the PO has achieved based on a list of parameters used to measure impacts and linkages to global benefits, such as the SDGs: (i) profit distribution to members and number of members (SDG1); (ii) percentage of women among business members and in leadership positions (SDG5); (iii) number of and wages of average employees (SDG8); (iv) extent of business members as a percentage of total community members (SDG10); (v) number of products and services based on different forest and crop species (SDG13 ? CC adaptation); (vi) area of restored and sustainable forest and agro-forestry management linked to the business (SDG 15.3 LDN target, SDG13). This module will also help PO members to track performance of inclusive agribusiness agreements in which they participate, and to communicate impacts and lessons learned from both successes and failures, while sharing tactics to enhance success.

In most countries and forest and farm producer organizations (FPOs) with which FFF has worked, women are still largely underrepresented compared to men, in particular in leadership roles. For this reason, FFBI training will specifically address these gender inequalities in the design of the module contents, and when selecting trainers and women participants? involved in sustainable business start-ups.

The ToT trained trainers and SFCC experts will be in charge of facilitating the FBBI training program. It will start at the beginning of year 2 with field visits to the target landscapes of ta limited number of PMU hired experts (including SFCC experts and trained FFBI trainers) to assess the businesses knowhow and capacity of prospective coffee POs and conduct structured interviews with each potential business (target coffee POs, input suppliers, other producers, value added processors, distributors, end users, etc.) and other relevant actors (both government and non-governmental) in the target areas who might already be supporting coffee POs to know what role they play in the value chains or what existing services they are offering that might be of use. Support organizations can have diverse impacts on community enterprise success ? both positive and negative. Getting an overview of past/on-going coffee VC development interventions by partner organizations (e.g. IFAD-supported PROSPERER and DEFIS projects in Vatovavy-Fitovinany; GIZ PrAda project in Atsimo Atsinanana) in the target regions and landscapes will help to avoid any unnecessary overlaps in the future and identify potential resources that could be brought in to provide specific services to enable upscaling of successes and learning from failures throughout project implementation and beyond.

The PMU hired experts with experience on FFF will develop a detailed survey methodology (e.g. a not too long and easy to understand needs assessment questionnaire to identify needs, existing knowhow and capacity gaps in business matters such as economy/finance, institutional/legal, technology/ research/development, NRM/environment, and social/cultural), and timeframe through which to carry out this initial phase of data collection, compilation and analysis. The PMU will assign 6 women and men facilitators for each rapid appraisal in the target landscapes to support the interactions (focus group discussions and interviews) with local community members and groups. The training team will pre-test

the draft needs assessment questionnaire using peer review or piloting with a few clients (male, female and youth) before finalizing and adopting it.

As a result of the appraisal phase, a mapping of the business environment and key actors in each target landscape will be produced, defining their roles in the value chain and showing links with financial institutions, academic/research, government agencies, NGO and relevant private buyer companies and trade operators. The appraisal phase will make sure from the outset that men and women?s business options are considered and that both men and women will be at the same level of knowledge at the end of the process. In that way FFBI training modules will improve the inclusion of gender equality matters. The hired trainers will adapt the contents of the training modules to the local context and the needs of the target producer organizations and VC actors.

The FFBI training program will include annual theoretical sessions and short, regular intense periods of business training and technical advice in the field to provide continuous guidance over Y2-3-4-5 to the participating POs in the development and improvement of their business development interventions. Capacities will be enhanced through ?hands on " assistance -to be provided directly at the level of the beneficiaries? production units, or by the ?pilot farms/plots? to be indicated by the same group/community. Training will also include study tours to facilitate learning and exchanges with PO and businesses (nodes of business development expertise) from other regions in Madagascar, the Global FOLUR IP countries, and SFCC members. While the PMU would be responsible for organizing and implementing all capacities-building efforts -including for financing, planning, monitoring, and evaluating them -, with the target groups/communities would rest the task of making sure that acquired skills/knowledge by trainers (by means of the ToT) are duly and timely spread among their members (farmers). Further, target groups/communities will also have the responsibility to ensure that the new approaches/practices/skills to enhance/ensure final product quality introduced by the project are duly spread among farmers/members.

It is expected that by Y5, the 70 POs and 32 COBA/RAG trained will have enlarged their memberships by at least 50% (with a more balanced representation of women), improved the quantity and quality of their coffee products, and increased the percentage of their internationally trade segment (PPP agreements with SFCC end buyers) thanks to (i) a quality management systems in place at each PO level, covering also traceability needs; a (ii) a first-party certification system (PGS) put in place to certify supplies compliance with SFCC Manifesto contents; (iii) at least 2 ?cupping exercises", covering supplies from the entire project, would be organized to the benefit of all groups/communities under FOLUR and during project?s timeline. Training will address approx. 3,500 farmers belonging to coffee POs and 1,600 members of forest community groups (COBA and RAG, see Output 3.1.1), who will become acknowledgeable of quality themes and sustainability production schemes? contents before project?s end.

SFCC assistance will be provided both by (i) participating in/proposing-organizing capacity-building events; (ii) taking part to demonstrative works (in pilot units or elsewhere); and by (iii)

sourcing/making available knowledge, experiences and skills already existing on this area within the SFCC?s network (including on SPG setting-up/operation).

Step 3 - Procurement investments

The public segment of the PPP (MEDD and MINAE) will actively take part by making available supportive policies and responsible tenure governance mechanisms (project Component 1), along with financial assistance procured through the GEF project (and other baseline projects? investment assistance).

By mid-Year 2, once the first group of trainers (including both private and public) have been trained, the Landscape Steering Committees (LSC) will organize awareness events to inform POs (coffee processing and marketing organizations, associations, cooperatives and SME) about the availability of project resources - through regular calls for applications for procurement investments - to support FFBI learning programs, and to make available climate-smart equipment and inputs to help organizations adopt sustainable coffee production systems and develop profitable and sustainable local enterprises.

The PMU will establish a financing mechanism to facilitate access to training/technical assistance, equipment and inputs, for project beneficiaries. As mentioned in Output 2.1.1, the PMU will develop an Operational Manual (OM) for procurement support, and will train facilitators (women and men) to inform the details of the call for tenders and the application criteria and mechanisms to potential beneficiaries, and to assist those interested organizations in preparing the necessary documentation, including the writing of the management/business plans that will justify the effective use and economic sustainability of the procured investments.

The PMU will issue regular Calls for Applications in the local languages through the usual channels used by the members of the SC in the target landscapes, specifying: (i) the priority areas for eligible investments; (ii) the type of investments; (iii) the maximum amount of support available; (iv) the compulsory co-financing in cash and/or in-kind required by the applicant; (v) the deadline to submit applications; (vi) where to obtain the *Guidelines for Preparation and Submission of Applications*. The applications should be prepared in French using a ?*procurement support application form*? developed by the project. The PMU will provide assistance to applicants with limited capacity to fulfil the form (due to language, literacy and technical constraints). The PMU will preselect the eligible applications based on a list of rejection criteria, and a Procurement Selection Committee (including representatives from PMU, MEDD, MINAE, and one or two partner experts in the matter of the Call and coordinated by the National Project Coordinator) will evaluate and select the applications that rank higher according to scoring criteria. The PMU will use the list of ranked applications approved by the Committee to establish the order of priority in which applications will receive support within the limit of available financial resources under each Window. In order to ensure gender balance, between 50

percent and a minimum of one third of beneficiaries receiving support should be women or women-led[49][49] coffee agribusinesses.

In order to ensure the continuous training and technical support that is needed to ensure the effective and long-term adoption of climate-adaptive, sustainable practices, the selected applicants will be asked in the ?Procurement Applicant Agreement or Contract" to participate in the FFBI training programs and to undergo a defined number of mandatory coaching sessions by the hired experts (including SFCC members). Selected applicants (POs, cooperatives or local enterprises) will be asked to undergo training on Rural Invest, a FAO tool that builds the capacity of rural entrepreneurs to assess the short and long-term profitability of their business. The mandatory coaching will include face-to-face sessions carried out by PMU staff and hired experts, and some on-line coaching by experts, the latter may have more weight depending on the evolution of the Covid19 pandemic.

The project will sign contracts or letters of agreement (LoAs) with: (i) SOA[50][50], the main partner of FFF in Madagascar with high experience in FFBI training in business incubation and risk management for young members of FDA and SOA & farm POs in the Diana region in the north of Madagascar; (ii) ONI Cooperative that have provided coaching services to several agricultural cooperatives in Madagascar under a USAID funded program. LoAs will include funding to cover their management costs, as well as funding to cover the cost of trainers, technical assistance, and the equipment and inputs necessary to establish the field schools in Y2 and facilitate them over the next 4 years. The project will dedicate USD 168,000 for at least 12 FFBI targeting 40 POs and SME, and 32 forest community groups (COBA and RAG, see Output 3.1.1) operating in the four targeted landscapes.

Specifically, the Call for Applications will be organized around the following procurement window:

Procurement Window on coffee processing and marketing: this Window will facilitate access to processing and marketing equipment and supplies for the targeted coffee POs and small enterprises, to assure high quality produce which is free of mould growth and OTA (Ochratoxin A) contamination. Eligible procurement items will include: (i) semi-wash depulpers and equipment to remove mucilage (both for Robusta and Arabica): suitable small-scale and low-cost machineries already tested by FAO and project partners in the Global FOLUR IP countries, that helps reducing the time required for drying, enhancing product?s quality while minimizing costs per kg in terms of labour, water and electricity consumption; (ii) solar drier structures (e.g. simple polythene tunnel solar dryers) to make more efficient use of sun energy, concentrate heat to dry faster and avoid the risk of coffee being re-wet; (iii) climate-proof coffee storage infrastructure and sisal or jute bags; (iv) coffee (micro) roasting-facilities to add-value to the current outputs sold by local coffee operators as a result of more direct trading channels (targeting small or multi-purpose retailers, hotels/restaurants, the tourist industry etc.); (v) small laboratory units to monitor coffee quality; (vi) quality management (QMS)/traceability

systems, including digitalization costs to ensure traceability long-term impact and effectiveness; (vii) certification costs; (viii) promotional/informational campaigns/events/materials to suitably further the image of target coffee supplies and properly inform on their origin and quality.

This Window will include a total amount of USD 550,000 to cover coffee quality and marketing improvement costs for 70 POs, cooperatives and/or small local businesses. The application forms should include a business plan with indicators and milestones to demonstrate the environmental and social responsibility of the organizations, as well as the profitability of the intervention. The project will have the responsibility for financing, besides equipment/materials, training and technical support costs, also any cost relating to the instalment/management of quality management/certification systems. However, efforts will be made to share these costs - especially certification ones - with supplies? buyers (importers/roasters/retailers etc).

The selected applicants will be asked in the ?Procurement Applicant Agreement or Contract " to participate in the continuous FFBI training programs and to undergo mandatory coaching sessions by the contracted experts. It is expected that the **coffee *processing and marketing improvement*** activities will start by the end of ***Y2***, following a gradual strategy that will begin with a pilot testing phase of available technologies (based on the experience acquired by FAO and its partners in Global FOLUR IP countries) in the first 2-4 applications, and the promotion of the most appropriate and cost-effective validated technologies in the subsequent call for applications. The trained trainers and external hired experts (e.g. among the SFCC member organizations) will provide continuous coaching support to applicants to ensure assistance throughout the business development process and to achieve efficient use of procured assets. The project will promote know-how sharing with baseline investments and other partners (within Madagascar and in the Global FOLUR IP countries) with successful experiences in technology development and use for high quality coffee production.

In addition, the project will grant aid funding (approx. USD 60,000 for matching grants) to local manufacturing companies (in the target districts or regions) to promote the local production of promising technologies (business development and job creation) and their dissemination within the framework of the project and beyond. Both Window applicants (POs, Cooperatives, and SME) and Matching Grant beneficiaries (local manufactures) will be request to co-finance 30% percentage of the costs.

Step 4 ? Public-private platform to drive collective impact of sustainable coffee communities in the target landscapes:

In line with other country/regional initiatives to develop agro-forestry commodity? platforms[51][51], the project will support the revitalization of the existing National Committee for Coffee Marketing (CNCC) or national coffee platform to allow national and international, and public and private coffee sector stakeholders work side by side to collectively identify country-specific sustainability priorities, define common goals and visions, and work together to achieve them. This activity will build on the best practices and lessons learned produced by the already existing 10 country coffee platforms[52][52] to identify country-specific priorities on sustainable coffee production and work together to address them (e.g. changing the business practices and create field level impact through sector alignment, innovation, and local pilot projects) and scale sustainability in the coffee sector. The final goal will be to become an active member of the Global Coffee Platform.

The PMU will organize focus group discussions with the national coffee actors to assess barriers preventing the effective functioning and access to domestic and export trade for high-quality coffee products and identify opportunities to create a national/regional coffee platform, involving both international (e.g. SFCC members) and national coffee production and market players. The coffee platform will be a forum to share information and learning, identify marketing opportunities and catalyse linkages among VC actors. Another major objective of the platform will be to revitalize the National Committee for Coffee Marketing (NCCM), as the national framework allowing national and international, and public and private coffee sector stakeholders to collectively identify country-specific sustainability priorities, and work together to address them, as well as influencing policy towards a conducive enabling environment for sustainable, profitable coffee production. The project will identify best practices of already established Country Coffee Sustainability Platforms ? 10 Platforms are part of the Global Coffee Platform (GCP) network, including Kenya, Tanzania and Uganda in Africa ? and will seek advice and support from the GCP secretariat and members.

Building on the best practices and lessons learned from other regions in Madagascar, the PMU will develop a coffee platform enhancement plan, to be discussed and agreed with the VC actors operating in the target regions. The PMU will involve the landscape steering committees and the VC members to identify a working place to host platform meetings in the four target regions, and the project will cover the costs of the first three years functioning of the platforms (travel, board & lodging, management fees). Initially, the platform may be hosted by a member organization (e.g regional chamber of commerce and industry; SOA[53][53] network) in each landscape, who will act as an informal body to periodically gather platform members and activate communication and joint actions. Throughout the project?s life, platform members may agree on a more formal governance and registration system to institutionalize the platform beyond the project, possibly at a national level. A roadmap will be agreed upon, to formulate platform strategies and action plans at the regional level, defining roles and responsibilities, membership conditions, expected results for the following 3 years of project implementation, timeframe, and business plan. The platform will (i) facilitate the organization of training and workshops about key coffee research, production and marketing issues; (ii) support members? participation to national and international fairs dealing with certified coffee products; (iii)

facilitate the knowledge and access to innovative production, processing and marketing systems and technologies, as for instance the use of digital services to connect end buyers and producers with more reliable records to monitor crucial information (real production and logistics) and more secure payments using mobile money accounts; (iv) support the identification of PPP development opportunities and facilitate contacts among international and national coffee actors sharing common interests (including for instance, working arrangement between a mobile operator and a local agribusiness directly sourcing from coffee producers[54][54]); (v) support the development of promotional and communication strategies and tools for the platform members; (vi) facilitate the access to relevant information and fundraising opportunities supporting sustainable coffee production and support interested members to identify partners and formulate good applications.

The Platform will support the development of a promotional strategy that will involve all value-chain operators, in particular importers and final retailers, to make sure that qualitative features and origin of the traded supplies are properly valued and, thus, rewarded by final coffee consumers. The latter will also be the subject of an ?educational and informational campaign? to ensure that they know and understand what they are paying for. To this end, it will be key that SFCC and other Platform members constantly scouts for partners (roasters/ importers/retailers active on both the internal and external markets) who will be willing and capable to engage in project?s operations so as to properly value, and remunerate, improving quality of the supplies from the project areas. Besides quality enhancement actions, the project will open a Call for Applications targeting local food and tourism businesses to procure and install, in each target region, one to two coffee (micro) roasting-facilities, to: (i) sell products with a GEF/FOLUR-origin (an hopefully, trade-mark) to be sold on the domestic market; (ii) to add-value to the current sales of local coffee operators as a result of the operation of more direct trading channels (targeting small or multi-purpose retailers, hotels/restaurants, the tourist industry etc.); and (iii) to have project beneficiaries acquiring business skills. Incomes from these facilities would be redistributed to groups/communities from which coffee was sourced, once operational costs are deducted. As in all procurement calls, selected applicants will receive training and coaching in properly running these facilities ?technically and financially. This action will be implemented between Y2 and the beginning of Y3.

SFCC will support FOLUR?s work in this area to quantitatively increase and qualitatively improve the trade of supplies available by: (i) making available suitable expertise/skills derived from its network and referential experiences, also from other coffee producing countries; (ii) proposing appropriate approaches/systems to enhance coffee quality and its image on final markets; (iii) developing promotional/informational campaigns/events/materials to suitably further the image of coffee supplies and properly inform on their origin and quality; and (iv) procuring partners (importers/roasters/retailers etc) who are willing to act according to the SFCC Manifesto principles and to fairly purchase/promote project?s outputs on end markets (domestic or external). The SFCC will also support the project in: (v) selecting the technology to be utilized in the 4 micro-roasting facilities to be set up at regional level, and (vi) in properly operating them.

The SFCC members actively involved in the coffee PPP development with the targeted POs and MEDD/MINAE, will play a key role in guiding the platform development and implementation process, and facilitating part of the platform initiatives. By the end of the project, it is expected that formalized agribusiness agreements will be established between at least two SFCC members and one second-tier umbrella business organization grouping several local POs in each of the four target landscapes.

Output 2.1.3*: A climate-smart and biodiversity-respectful, diversified rice/legume production system is adopted by capacitated farmers in the buffer zones of coffee agroforestry and protected landscape areas.*

Agriculture, and especially unsustainable slash-and-burn rice production in mountain areas, remain the main cause of deforestation at country-level. With a growing population, poverty, and the dramatic consequences of COVID-19 on the economy and health, the natural resources of Madagascar are under high levels of threat. Rice production, namely *tavy* slash-and-burn production in mountain areas, will remain a major driver of deforestation in the near future. However, major upcoming nation-wide initiatives on rice offer a major leverage to support a shift towards more sustainable rice production practices with the optics of ?building back better?. Such practices include improved land-use planning to protect trees and forest stands in the landscape, the promotion of agroforestry and especially crop diversification in the rice landscapes, water management improvement and the reduction of GHG emissions through the promotion of climate smart production practices (e.g. SRI and SRA under conservation agriculture).

Rice is one of the country's main crops. Total production for the 2018-2019 campaign was 4,231,000 tonnes of paddy, an increase of 5% compared to the previous campaign, with an average yield on irrigated crops of 2.73 tonnes per hectare. Rice farming - rain-fed or irrigated depending on the areas - is largely present in the four target landscapes, together with other food crops (including cassava, sweet potato, maize, pulses) and cash crops for both local market (cereals, peanut, tomato, potato, coffee, sugar cane and fruits including banana, apple, pear, breadfruit, papaya, mango), and export market (coffee, clove, pepper, vanilla, litchi, spices). Rice is mostly produced by indebted small producers (~2/3 of producers), with limited yields (1t/ha), a production that does not suffice to meet the needs for self-consumption and where part of the harvest is locally sold to repay loans. Medium-scale producers (0.5 to 1 ha of rice area produced) represent about a quarter of the producers. With a higher average yield and larger farms, they adopt a strategy of self-sufficiency in rice. Large producers (> 1 ha) can meet their needs for both self-consumption and sell part of their production for additional income generation. In lowlands and alluvial plains, irrigated rice predominates, whereas rain-fed rice, other rain-fed subsistence crops and agroforestry systems (including coffee) are grown on slopes.

The project will build on external baseline investments largely focused on promoting agriculture productivity for food security and improved livelihoods, with a strong focus on rice, as for instance: (i) the 18 years? experience of AFD supporting projects which provide practical solutions to thousands of family rice farms, while promoting agroecological practices (e.g. climate-resilient agroforestry, CA,

permanent soil cover, diversified crop rotations, composting) in the Lake Alaotra and Vakinankaratra regions; (ii) IFAD/AD2M-II project has introduced SRI/SRA through 315 FFS over 3,500 ha to be expanded to 6,000 ha (irrigated areas rehabilitated or newly developed, and areas fed by karstic springs); FORMAPROD has trained 9,020 young people are trained in SRI/SRA rice cultivation (SRI/SRA), from which 5,770 have benefited from funding for their Professional Project; DEFIS has disseminated SRI/SRA through the establishment of 475 Champs Ecole Paysans for the benefit of 5,211 family farms over 587 ha; innovative technologies and practices introduced by AfricaRice and International Centre of Insect Physiology and Ecology are already being scaled up through ongoing IFAD-funded projects; (iii) JICA PAPRiz-3 project (2020-2025) is strengthening the rice value chain to achieve food self-sufficiency and building a basis for future export, targeting 200,000 beneficiaries trained on the PAPRiz technical package over 300,000 ha in 23 regions of Madagascar. While these investments recognize the problems of land degradation that affect the landscape, they are not adequate to maximize global environmental benefits, to address issues operating across landscape, between sectors and among diverse stakeholders, or to mitigate the impacts of a growing local demand for rice and international demand for coffee. The project will capitalize on these ongoing investments, by adopting good practices, replicating successful approaches, drawing on expertise and integrating with existing Government led coordination and project implementation systems.

The project will favour rice producers with 50% or more of their production in the *tavy* and *tanety* systems and close to the coffee plantations, since the objective of this Output is to reduce the impact of this cultivation system on the deforestation of the natural forest and the conversion of coffee plantations into rice crops. The rationale for this output is that the **diversification of rice production** with complementary off-season crops (especially legumes) within the framework of a SRI/SRA system under conservation agriculture/CA (conditioned to the joint application of minimum soil disturbance, permanent soil cover with cover crops and/or mulch, and species diversification through crop rotation), and the use of legumes (e.g. *Stylosanthes* sp.) to cover soil during fallow periods, will derive in a contribution of added benefits that will provide liquidity to farmers to face basic expenses and invest in the technologies and labour necessary to prevent the frequent farmer?s disadoption of innovative technologies, while ensuring in the long-term the effectiveness of sustainable agroecological farming systems and the improvement of production, livelihoods and environmental conditions (fertile soil and water availability). The support to farmers with crop diversification technologies (equipment, improved seeds and environmentally sound inputs under the procurement investment window in Action 2) will be closely linked to a continuous training and coaching program throughout all the project timeframe to accompany farmers in a process that entails insecurities (especially in the first two years of changing the agronomic system in which yield improvements may not occur) that are better coped with a continued presence of advisors and trainers, and the organization of learning visits to areas where champion farmers (peer-to-peer exchanges) already have consolidated a positive change.

The overall objective of the project is to achieve 20,000 ha of rice farmland under improved agricultural practices and sustainable crop diversification (SRI/SRA under CA management system including rice and off-season legume cash-crops) in the four target landscapes. This objective will be met by focusing on three specific actions:

Action 1	Participatory selection of rice/complementary crops? species varieties
Action 2	Capacity development
Action 3	Community seed banks to increase access and availability of high-quality seeds from target crop species and varieties
Action 4	Soil and water management
Action 5	Provision of assets through procurement windows
Action 6	Continued technical assistance to coach farmers adoption of SRI/SRA/CA
Action 7	Participation of target farmers to existing/new value chain platforms

Action 1: Participatory selection of rice/complementary crops? species varieties and effective livestock-crop management interactions

During the PIAs? participatory planning process, the technical landscape teams and hired experts will organize awareness raising events, knowhow sharing (e.g. including field visits to farmland plots of lead farmers using climate-adapted and high-yielding rice varieties) and training for target farmers to jointly identify and agree on the most suitable rice varieties and complementary offseason legume (and other crops) species and varieties to be cultivated under SRI/SRA making use of the complete conservation agriculture agronomic principles. The SHARP[55][55] expert will assess social/behavioral/cultural constraints behind farmers? reluctance to adopt new, better-adapted varieties and diversified cropping systems, so as to inform FFS learning techniques, contents and technical support. Likewise, the PIA plans will define by-laws and enforcement mechanisms to avoid competing land uses conflicts (e.g. zebu or other livestock grazing during wrong periods in SRI/SRA/CA fields). SHARP assessments will help develop awareness raising and learning tools and materials to demonstrate positive complementarities between different land uses when effectively applied. Specifically, the tradeoffs derived from the conservation of part of agricultural residues from rice, cover crops and offseason crops as soil mulching and their use for compost and animal fodder will be addressed.

Action 2: Capacity development

The project will establish a pluralistic learning system, including the provision of training through public extension agents, trainers from local grassroot organizations, lead farmer extension approach, and especially focusing on Farmer Field/business Schools (FFF/FBS). The learning system will empower the farmers to (i) gain a good understanding of land degradation problems affecting the agriculture with a specific focus on diversified agroecological rice production, and (ii) apply the best locally adapted diversified production solutions (suitable climate-adapted crop species/varieties under SRI/SRA and CA crop diversification systems) in line with the priorities identified in the ILMPs (Output 1.1.2). The skills of extension providers (decentralized public departments, community-based organizations (CBO) and NGO members, lead farmers, researchers, and private organizations) will be developed, so that a critical mass of public and private trainers will be available in the target landscapes to support farmers in the effective adoption and implementation of the priority interventions. The four-steps approach adopted by the project has the dual focus to create a sufficient pool of public and private extension providers trough a ToT programme in the target landscapes, and to establish a pluralistic system of "learning-by-doing" through which the trained extensionists provide training and technical support to practitioners? groups. This will ensure the presence of local extension providers in remote areas where public extension agents may have difficulties to pay frequent visits and ensure sufficient continuity for the training and coaching of target farmers to be effective.

Step 1 - Stakeholders? mapping and analysis: during the ILMP design phase (Output 1.1.2), the project will undertake a detailed mapping exercise to identify all public (staff from the deconcentrated technical services and research centres) and private (e.g. NGO, CBO, lead farmers, private organizations and businesses) trainers involved in extension support and the landscape areas where they are active. The assessment will also look at the capacities of trainers in terms of technical knowhow and governance issues, trainer aptitude and training methodologies. Likewise, the mapping of rice producers and producer organizations that are active in the target landscapes will be carried out identifying: (i) existing formal and informal producer organizations (e.g. number of members, gender, age), how they are organized, in which areas of the landscape they are active, under what tenure/rights of use regime, and how they regulate their productive activities; (ii) What agronomic management systems and techniques they use, what results they obtain (to the extent possible, annual yields, food security, income) and with what regularity; (iii) motivations and barriers for income diversification activities (on-farm and off-farm); (iv) problems faced (e.g. environmental problems derived from changes in climate; land degradation or lack of water; gender issues; lack of knowledge, technical support, suitable inputs and equipment to produce, etc) process and market and to manage an association, cooperative or small business;); (v) what do they need from the project to help improve their production capacity and livelihoods.; existing experience and lessons learned from FFS/FBS implemented by baseline projects and other partners in the target regions.

Step 2 - Design and implement ToT modules for lead trainers and facilitators: By early Y1, the project will identify potential candidates (with a gender balanced focus) from decentralized departments of MEDD, MINAE, local NGOs, lead famers, and researchers for the ToT training programme, and will organize awareness-raising events to explain the initiative in the villages of the target landscapes. The

selected participants will be organized according to their field of interest/expertise, and baseline capacity will be analysed to fine tune the contents of the modules. Specific training for women will be organized whenever it is considered by ToT women participants that this facilitates gender inclusion and improves the consideration of their specific needs. Five ToT modular programmes will be designed: (1) sustainable rice intensification (SRI/SRA) under conservation agriculture system and integrated pest management; (2) crop rotation and diversification, with special focus on legume cash crops and cover crops, but without forgetting other complementary crops with rice of interest to the beneficiaries; (3) high-quality seeds production for climate-smart crop species and varieties; (4) soil water conservation and water management in *tanety* and *tavy* rainfed cropping systems; (5) the multiple use of agriculture residues and animal manure for soil mulching, compost production and fodder; (6) integrated pest management techniques addressing emergent pests and diseases such as the fungal rice blast (*Magnaporthe oryzae*) which is particularly present in the eastern coast of Madagascar; (7) Climate-proof post-harvesting, produce storage, processing and market access technologies and procedures; (8) creation of producer organizations and business development; (9) linkage with VC actors and market access. The modules will provide a cost-benefit analysis of the proposed systems and technologies to raise awareness about how and when investment cost will be amortized, how to improve market access and linkages with value chain actors, and to support decision-making processes throughout the chain from production to trade. An additional literacy training module ? with the production of educational materials around the ecological and productive context of the target landscapes in local languages ? will be designed to building the teaching capacity of trained trainers on reading, writing and basic mathematics.

The PMU will hire 5 national experts to develop the training programs and contents and deliver the training. Experts will be selected among already trained trainers in charge of FFS/FBS in the framework of baseline projects (e.g. DEFIS, PrAda) and national experts with solid knowhow and demonstrated field experience on the targeted agronomic technologies, producers? businesses, and markets.

All along Year 1, the project will organize several ToT workshops depending on the target group: (i) specific ToT for master trainers and facilitators mentoring Farmer Field Schools (FFS), including the methodological aspects of how to organize and facilitate learning under FFS ; (ii) training for extension providers active in the target landscapes ? e.g. decentralized agriculture and forest extension officers at regional, district and municipal levels, lead women and men farmers, youth group leaders, CBOs and NGOs; (iii) specific training for women organizations in the target landscapes. The ToT participants will follow theoretical sessions as well as very practical seasonal-long training sessions. It is expected that at least 40 lead trainers and facilitators will be trained in each landscape (160 in total) once completed the first seasonal-long training in early Year 2. A second training programme to help refresh knowledge will be implemented during the following season (Year 3) for the same number of trainees.

Step 3: FFS/FBS training to the final beneficiary rice/legume producers: As from Year 2, the project will organize information and awareness raising sessions in the villages of the target landscapes to invite rice producers to participate in a continuous training programme throughout the years 2-3-4-5 of the project. Candidates will be asked to apply (testing-and-adapting) the new system and technologies

in all or significant part of their farmland plots, with the possibility to follow a gradual adoption throughout the project life. Interested trainees will be organized in groups of a maximum of 25-30 participants and will be assigned a lead trainer and facilitator to organize and facilitate on-the-field learning events around farming systems and technologies, based on the lessons learned of FAO, IFAD and GIZ investment projects.

Continuous seasonal-long learning sessions will take place over the different production phases of the rice and complementary legume crops value chains throughout Y2 to 5. The project will apply the training modality of the FFS/FBS (farm field schools with a business development approach), following the FAO, IFAD and GIZ successful experiences and lessons learned from their FFS/FBS learning programs in previous projects in the target regions and elsewhere in Madagascar. The project will build on the recommendation to establish a village committee around FFS interventions to enforce the linkage between FFS participants and other community members involved in the same type of crops. As already mentioned, FFS/FBS will also support business development skills, addressing all the steps from the production of quality seeds, climate-smart diversified production systems, post-harvesting, processing to marketing.

The project will sign a contract or letter of agreement (LoAs) with (i) MINAE/FDA, with a solid track record and leading role in the support of FFS in baseline investment projects (e.g. IFAD/DEFIS) and other GEF projects (e.g. FAO/TEFIALA). LoA will include funding to cover their management costs, as well as funding to cover the cost of trainers, technical assistance, and the equipment and inputs necessary to establish the field schools in Y2 and facilitate them over the next 4 years. FFS training will follow a ?foci model? through which participants grow in the immediate neighbourhood of the farmland plots that host FFS learning activities. It is expected to train approx. 25,000 rice/legume producers by the end of the project, The aim is to spread sustainable rice/legume VC development and implementation knowhow among project beneficiaries and consequently gradually expand among the rest of coffee producers throughout the target landscape areas. The FFS learning approach and tools will have as a major objective to build the associative capacity of farmers and promote the creation of strong rice and legume producer groups among FFS participants, as the best strategy to improve production and increase market bargaining power.

Step 4: Upscaling and sustainability: The long-term sustainability of extension provision in the target landscapes is not a simple task due to limited human and funding resources. The proposed extension system aims to increase presence of knowledgeable practitioners throughout the landscape areas with the capacity to provide extension support to all the communities, with a major focus on remote, low accessible areas. The project will test a revolving system linked to the learning groups, based on small annual contributions from the group of trainees to cover the training costs (e.g. small fees for lead trainers and facilitators, and inputs). This system is currently being piloted in northern Madagascar in the context of an FFF programme.

As a result of the training programmes, a number of simple and well-illustrated training materials (e.g. handbook, leaflets, cards, videos, posters) will be produced and disseminated in the target landscapes, municipalities, districts and regions, including images, video shootings, farmers? stories with their lessons learned, etc. All the materials will also be available online, as part of the project?s communication programme and in the different partners? web pages.

Action 3: Community seed banks to increase access and availability of high-quality seeds from target crop species and varieties.

A wide number of climate-smart rice and legume species and varieties already exist in Madagascar thanks to extensive research (e.g. FOFIFA, FIFAMANOR, CIRAD, Africa Rice, ECABREN, JICA), and there is good knowledge about which are the most suitable in each region or district. At the end of 2016, Madagascar had 157 public and private seed producers, including individual seed growers, seed producer groups, associations, and cooperative unions, among them. The ILMPs (Output 1.1.2) will help downscale crop varieties suitability at the landscape level, and in this way select in a participatory manner with the target farmers those varieties that jointly respond to an increase in production, a better adaptation to climate changes and greater resistance to pests and diseases. However, according to FAO/WFP recent mission reports on crop harvests and food security, in line with other partners? experience, one of the main constraints preventing good production is the lack of access and availability to farmers of high-quality seeds of appropriate varieties. A major FAO/WFP recommendation for the target regions is the need to increase agricultural seed supply through the multiplication of seedbank centres and support for accessibility to farmers.

The PMU will build on several public and private organizations that have acquired good knowledge on high quality seed production and that commercialize seeds from a number of crop species and varieties, such as: (i) FOFIFA seed orchard in Kianjavato centre in Vatovavy-Fitovinany region; (ii) Silo National des Graines Foresti?res (SNGF) seed production centres; (iii) Cercle R?gional des Agriculteurs Malgaches (CRAM) in Fianarantsoa, for high quality seed provision and training; (iv) Direction R?gionale de D?veloppement Rural, Bureau de D?veloppement l?Ekar Mananjary, Fiangonana Loterana Malagasy DIAKONIA and Inter Aide Manakara; FIFAMANOR; GRET Madagascar; Soci?t? Rostaing; local seed producer groups.

The project will establish contacts and discuss partnership agreements with at least one of the previously mentioned organizations in each target landscape to support local organizations willing to establish community seed banks for maintaining, safeguarding and exchanging local and farmer-preferred seeds for local use. Local seed bank organizations will: (i) conserve local varieties and restore varieties that have disappeared from the community; (ii) provide access to good quality seeds and make them readily available at a low cost to farmers who are interested in or in need of seed; (iii) serve as a platform for community development, through the organization of seed fairs to catalyze the adoption of high quality seeds by agriculture producers in the target landscapes.

The output will be organized around the following steps:

Step 1. *Identification of key regional actors in the seed system and how they relate to the targeted crop species/varieties and local farmers*: the stakeholder analysis will provide insights about how farmers select, save, conserve, and exchange seeds over time, and where, with whom, and how they interact with others in the seed system. The goal is to uncover the main difficulties associated with conserving and using seeds in the current system so that they can be overcome, and everyone can benefit.

Step 2. *Awareness raising among the population in the target communes*: assessment results will be shared through information events for community members organized by the landscape PMU units and project facilitators, with special attention to women associations that have demonstrated high interest in this subject.

Step 3. *Specific funding Window to support the establishment of the community seed bank*: The PMU will open a call for applications to local organizations willing to establish community seed banks in the target landscapes to ensure the availability of plant material of the crops and varieties that suits the agroecological and CC adaptation conditions in each landscape. Interested groups will receive support for the preparation of applications to help them address key factors (e.g. ownership and current use of the land; transportation means; presence of water, etc.) and to prepare a business plan demonstrating the viability of the investment. Selected applicants will receive procurement investments such as equipment and inputs, and will receive training on seed collection, selection and calibration, seed germination and health, cleaning and drying, storage and conservation, and seed certification. It is foreseen that at least two community seed banks will be established in each landscape by end Y2, with a total budget of USD 156,000. This will allow piloting the process of creating small local companies for the production of high-quality seeds and the development of innovative seed production techniques adapted to the local context and suitable species / varieties.

The project will hire expertise from the previously mentioned seed production organizations to develop and implement a training program that may be hosted by FOFIFA and CRAM. The provided training and technical advice will have a business approach, to make sure the community organizations managing seed banks become small local businesses for the marketing of seeds. Tailor-made training on technical and business development issues will be provided by the trained lead trainers and facilitators (Output 2.1.1), and the established community seed banks will collaborate with the farmer learning groups operating in the landscape, to support farmers? exchanges and knowhow sharing on seed collection and multiplication in an efficient and effective way. The project will coordinate efforts with the Official Service for the Control of Seeds and Plant Material (SOC) of MINAE to follow the required certification standards and control the quality of seeds in the seed banks.

Step 5. *Organization of seed fairs*. As from year 3, the community seed banks, with the support of the implementation partners (e.g. FOFIFA; SNGF; local NGOs), village institutions and the local authorities, will organize periodical seed fairs in/near the villages where they are established, with the objective to attract buyers from the whole landscape. The seed fairs will be organized in adequate seed fair sites, considering storage and security of seed stocks, and accessibility/proximity to interested buyers. A seed fair committee will help mobilize both seed sellers and buyers who will participate to attend the periodical events, and will agree on practical issues, such as competitive pricing guidance. The local PMU offices and the landscape SCs will help disseminate information about the benefits of using climate-adapted, high-quality seeds, and will invite farmers from the target villages to participate in the seed fairs. Main beneficiaries of the seed fairs will be FFS/FBS participants who may receive vouchers to support them in buying seeds (window for procurement investments under Action 3 described below).

Action 4: Soil and water management

The topography of the *tanety* and *tavy* cultivation areas is hilly, often with steep slopes and valleys of varying sizes, often with unstable soils with poor soil quality and fertility. In order to overcome this constraint, the project will support farmers with training, technical support and investments to reinforce/establish contour lines and terraces and to establish contour strips of cover crops to prevent erosion, enhance water runoff and infiltration and soil fertility. Suitable cover crops species (e.g. *Cassia rotundifolia, Trifolium repens, Desmodium uncinatum, Glycine max* and *Lotus maku*) will be selected, based on best practices produced by other projects and partners (e.g. FOFIFA, FIFAMOR, CIRAD, etc[56][56]), with the aim to produce biomass while at the same time, used in a vegetative conservation strip. The biomass would be collected and used both for livestock feeding and as mulch and/or for compost production. FFS applied training will facilitate learning about composting methodologies, and the use of animal manure to improve soil fertility. The FFS participants will be taken to visit farmland plots of lead farmers in the target landscapes, who have high rates of return by using mulch, manure and/or compost on diversified rice/legume cropping systems.

The project will also support farmers through training, technical support and investment to increase water harvesting and address additional water needs for agriculture and human consumption during dry seasons, such as water harvesting/water conservation and run-off erosion control infrastructures, water intake points along neighbouring rivers, and irrigation equipment at farm level.

Action 5: Provision of assets

By mid-Year 2, once the first group of FFS master trainers/facilitators, and FFBI trainers have been trained, the Landscape Steering Committees (LSC) will organize awareness events to inform farmers about the availability of project resources - through regular calls for applications for procurement investments - to support FFS/FBS learning programs, and to make available high-quality seeds, and climate-smart equipment and inputs to help farmers and producer organizations adopt diversified SRI/SRA rice production under conservation agriculture system.

The PMU will establish a financing mechanism to facilitate access to training/technical assistance, equipment, high-quality seeds and inputs, for project beneficiaries. As in Output 2.1.1 and Output 2.1.2, The PMU will develop an Operational Manual (OM) for procurement support outlining eligibility and application criteria and rules, and will assist interested applicants in preparing the necessary documentation, including the writing of the management/business plans that will justify the effective use of the procured investments. A Procurement Selection Committee (including representatives from PMU, MEDD, MINAE, and one or two partner experts in the matter of the Call and coordinated by the National Project Coordinator) will evaluate and select the applications that rank higher according to scoring criteria. In order to ensure gender balance, between 50 percent and a minimum of one third of beneficiaries receiving support should be women or women-led[57] producer organizations.

The selected applicants will be asked in the ?Procurement Applicant Agreement or Contract" to participate in the continuous FFS and FFBI training programs and to undergo a defined number of mandatory coaching sessions by the hired experts so as to ensure the effective and long-term adoption of the diversified rice /legume production under climate-smart practices. In the case of applications from POs they will be asked to undergo training on Rural Invest, a FAO tool that builds the capacity of rural entrepreneurs to assess the short and long-term profitability of their business.

The project will sign a contract or letter of agreement (LoAs) with MINAE/FDA. LoA will include funding to cover their management costs, as well as funding to cover the cost of trainers, technical assistance, and the equipment and inputs necessary to establish the FFS/FBS in Y2 and facilitate them over the next 4 years. The project will dedicate USD 234,000 for 100 FFS/FBS to directly and indirectly reach 25,000 rice producers in the targeted landscapes.

Specifically, the Call for Applications will be organized around the following procurement window:

Procurement Windows on equipment and inputs for diversified SRI/SRA rice production under CA: this Window will facilitate access to plant material, equipment and supplies, as for instance including: (i) vouchers for purchasing high-quality seeds of rice, legumes and other crops in seed fairs (described

above in Action 2); (ii) gender-sensitive (equipment that help reduce labour for women), efficient, cost-effective small agricultural equipment such as: SRI/SRA/CA weeders (e.g. pike weeder, metal & wood welded weeder, hand grubber weeder, cono weeder, rotary weeder, bicycle weeder), markers (e.g. 4-8-6 row rake marker or roller marker; wooden grid marker), direct seeders (e.g. broadcasting seeder, planting stick, hand jab planter, animal drawn planter, hand hoe), minimum tillage equipment (e.g. rippers, sub-soiler, chisel plough), lime distributor; (iii) fertilizers and other inputs; (iv) small water harvesting/storage infrastructure and irrigation equipment; (v) post-harvest storage equipment; (vi) digitised marketing tools. This Window will include a total amount of USD 1,497,000 to cover rice production improvement costs - covering a total area of 20,000 ha.

Procurement Window for manufactures to adapt conventional equipment and adapt it to SRI/SRA/CA production needs: A bottleneck to adoption of SRI/SRA/CA is availability of cost-effective equipment for rural poor. The local manufacturing of cheap solutions to adapt conventional equipment is an important step for upscaling adoption of SRI/SRA/CA. The project will open a Call for Applications targeting local manufacturers willing to innovate and develop low-cost local solutions. There will be approx. 4 matching-grants (30%-50% co-funded by selected applicants), one per target region, with a maximum amount of USD 20,000 each.

The application forms should include a simple business plan with indicators and milestones to demonstrate: (i) the suitability of the selected area for rice production diversification ensuring suitable agro-climatic conditions and zero-deforestation or zero-replacement of agroforestry plantations; (ii) the diversified rice production systems and practices supported by the project; (iii) the profitability of the intervention. Applicants will be asked for co-funding in terms of cash and/or in-kind contribution, mainly in terms of labour days for land preparation (halls digging and manure spreading), seed sowing, crop management, and the provision of various production inputs. It is expected that the diversified SRI/SRA/CA **rice** ***production improvement*** activities will start in ***Y2***. The selected applicants will be asked in the ?Procurement Applicant Agreement or Contract? to participate in the continuous FFS training programs and to undergo mandatory coaching sessions by the contracted experts.

It is foreseen that rice production will increase 2-to-4 fold (up to 3.5-4 t/ha) and legume production up to 1.2 t/ha thanks to the effective and continuous adoption of the SRI/SRA/CA agronomic systems and technologies. Moreover, it is expected to obtain significant water savings (up to 50 percent), and significant reductions in the need of seeds (up to 80 percent less rice seeds needed under SRI).

Action 6: Continued technical assistance

The adoption of innovative technologies represents a paradigm shift requiring a real transition phase with a long learning process through a dual conversion, both technical (new practices unknown to many farmers who do not have a track record of their true effectiveness in place) and behavioural (from an ?ad-hoc? short-term logic to long-term ?strategic? way of thinking). The frequent discontinuity and

short duration of training and technical advice that occur in many projects makes farmers feel abandoned in a process that they do not control and in the case of doubts or occasional mistakes they prefer to revert to conventional techniques. This is the reason why the Project will cover the costs for staff from decentralized public services, local NGOs, lead farmers and local research centres trained through the ToT to offer a continued coaching service to the farmers and producer organizations involved in the project through periodical monitoring visits in critical stages of production, post-harvesting and marketing, to check how things are proceeding, solve doubts and provide recommendations to facilitate the adjustment and fine-tuning of innovative systems and technologies to the local context and guide POs to organize themselves and improve their access to markets.

Action 7: Participation of targeted producers to existing/new value chain platforms.

At the start of the project (first 6-8 months of Y1), as part of the preliminary participatory assessments to best focus project?s work, the hired experts will support the PMU team to better understand not only improvements required to enhance overall rice and legume domestic market (during the entire project?s life), but also to assess the immediate implementation actions needed for a quick increase of current levels of sustainable production/sales by groups/communities working under the project?s umbrella. The hired experts will provide specific and sound knowledge of value chain linkages among actors, and market needs. This value chain analysis will be, in fact, an important move to gain the confidence of rice and legume producers assisted by the project and to motivate them to introduce/adopt production improvements to be recommended by the project? especially in terms of sustainable management of *tavy* and *tanety* fallow requirements to avoid further deforestation for new cropland and the adoption of sustainable production intensification under SRI/SRA/CA and produce storage practices that are ecologically-sound, climate-adaptive, socially-beneficial and economically-viable.

The VC analysis will put special emphasis on understanding the role played by national and sub-national rice and legume platforms to address distribution constraints, weak information about commercial partners and communication among them, and the absence of produce storage installations.

The FBS learning activities will inform farmers about existing VC platforms and the importance to become platform members to improve the production and distribution of rice and legumes. In this sense, the project will support the enhancement and/or creation of informal rice and legume (other target crops) landscape platforms (including agricultural POs and cooperatives, equipment/input suppliers, wholesalers/retailers/exporters) to: (i) help producers produce high quality rice and pulses that meet food security needs and local market demand/income generation needs; (ii) create attractive local market opportunities through the establishment of community-based produce storage facilities shared by POs; (iii) contribute to the local community by improving the situation of malnutrition among women and children. The project investment window (Action 6) will facilitate POs access to storage equipment through procurement applications and will cover the functioning costs (platform meetings and venues to exchange information, facilitate commercial collaboration and promote ICT

technologies, awareness materials, members attendance to fairs and national platform meetings, etc.) of the informal landscape platforms.

Component 3: Conservation and restoration of natural habitats

Outcome 3.1: Natural forests conserved, restored and sustainably managed in/around protected areas of the four target landscapes

This component will deliver support for the implementation of forest and landscape restoration (FLR) interventions identified in the ILMPs (Output 1.1.2) in/around protected areas neighbouring the target communes in the four landscapes (COFAV corridor in Fitovivany landscape; Massif Ibity, Massif Itremo and COFAV in Amoron?i Mania landscape, Ranomafana NP and COFAV in Vatovavy landscape, and Agnalazaha, Manombo and Ankarobolava Agnatrika PAs in Atsimo Atsinanana landscape), as well as support for complementary sustainable forest management income generating initiatives. The main beneficiaries will be the protected area managers and the existing (or new) COBA/VOI transfer contracts and plans transferring NRM in designated management areas under GELOSE/GCF laws.

The project will help minimize the trade-offs between conservation and development needs through the enhancement and restoration of forest ecosystem services supporting multiple environmental and socio-economic benefits. The project investments in the four target landscapes will respond to the following GoM priorities (National FLR Strategy; National LDN target setting; INDC; NBSAP) on climate-smart landscape conservation, management and restoration: (i) Village-level tree planting with special focus on bioenergy but also on timber production; (ii) Restoration, protection and sustainable management of natural forest ecosystems; (iii) Identification and sustainable management of climate refuge areas inside and outside protected areas; (iv) Demonstrate PES schemes promoting conservation and sustainable use of BD; (v) Restoration of agroforestry production systems. The river watersheds covering the target landscapes are considered as very high priority (Amoron?i Mania) and high priority for FLR interventions in the National FLR Strategy. According to the National FLR Strategy, Atsimo Atsinana and Amoron?i Mania are the 4th and 5th regions in terms of priority areas for FLR interventions with around 0,34 M hectares of land to be restored each. Vatovavy and Fitovany include much less priority areas with about 28,000 ha altogether.

Forest and Landscape Restoration can enhance the resilience of the landscape socio-ecological systems and helps restore the ecosystem services that sustain people?s livelihoods and wellbeing in a changing climate: **(i)** Carbon sequestration through direct interventions to restore vegetation cover, increased soil carbon storage through improved agronomic practices, and increased carbon storage in the vegetation cover and soil through protection measures; **(ii)** Emissions reduction through climate-risk reduction measures such as forest and agriculture waste and biomass management for bioenergy to prevent fire risk while abating the use of fossil fuel, and the adoption of renewable energies for water pumping,

irrigation post-harvesting and food processing; **(iii)** Enhancement of biodiversity and agro-biodiversity through species diversification in the restoration of natural ecosystems and in agriculture production, as a measure to: a) enhance the climate resilience of the agro-ecosystems (e.g. higher number of species and crop varieties with different adaptation traits help the landscape react to a wider range of environmental conditions and changes); b) diversify income-generation opportunities to enhance socio-economic resilience and food security; **(iv)** Adaptive forest management (e.g. agroforestry production to increase species diversity, tree cover, and shadow conditions for soil retention, soil improvement, hydrologic regulation, and micro-climate conditions, as well as income diversification), climate-resilient agriculture technologies (e.g. efficient irrigation technologies, soil and water conservation technologies through conservation agriculture, integrated pest management, and organic agriculture to improve crop production, hydrologic regulation, as well as income diversification), and water management technologies (e.g. rainwater harvesting, efficient irrigation technologies, technologies for soil water retention and storage; and **(v)** Enabling conditions for FLR, like institutional and technical development or improved cross-sectorial policies and legislation supporting FLR will also respond to climate change mitigation and adaptation needs.

The project target will be to restore/rehabilitate and improve the management of at least 10,000 hectares of natural forests and agroforestry systems with different degrees of degradation in the four priority landscapes: in/around protected natural forests and in managed landscapes to regain connectivity between the critically endangered remaining scattered forest stands. Priority will be given to those areas the lie at the intersection between forests, coffee plantations and areas where the expansion of *rice tavy* crop occurs, and that are more likely to be further degraded and encroached in the near future. The project will also support the restoration of shadow forests that are critical to the high-quality coffee value chains (under Output 2.1.1) and to the development of local business based on the sustainable exploitation of non-timber forests products linked to ecotourism development opportunities. It is estimated that ? besides the gains in terms of biodiversity conservation and provision of ecosystem services, the restoration/rehabilitation interventions will entail the mitigation of approximately 4,968,459 metric tons of CO2e of GHG Emissions.

Outcome 3 will build on the best practices produced by MEDD & MINAE large scale plantations funded by the WB, the WWF FLR interventions in the COFAV corridor, the CI forest restoration and REDD+ interventions in the CAZ and COFAV corridors, the *individual village-level reforestation* modality under the GIZ/PAGE project, the KfW forest restoration interventions in protected forests, the USAID FLR funded projects in degraded natural forests, the WCS restoration of natural forests in Northern Madagascar PAs, the MBG scientific platform on FLR, FOFIFA (wild Coffea species *ex situ* conservation), OmniVerdi private experience on native species nursery production protocols and water-efficient planting techniques in southern Madagascar, and the FAO FLR restoration interventions. Although lessons on high-quality plant production and climate-adaptive planting techniques are produced in all these FLR initiatives, the project will put more focus on best practices restoring forest habitats and priority species population in central and eastern Madagascar.

Output 3.1.1: *Community-led forest restoration, adaptive management and value chain development implemented in the Priority Intervention Areas of the four target landscapes for an enhanced provision of biodiversity and ecosystem services and income generation.*

Under Output 1.1.2 and Output 1.1.3 the ILMP prioritization mapping exercise will identify Priority Intervention Areas (PIAs) within each landscape, where to focus and concentrate the project field interventions, including the forest restoration intervention modalities defined in the National FLR Strategy, and the wood/NTFP adaptive management interventions. This Output will concentrate its actions within/on the periphery of the sections of the protected areas represented in the target landscapes and will have as beneficiaries the members of the community-based organizations (COBA or VOI) existing/new with GELOSE/GCF contracts to manage assigned forest areas within protected areas, or the reforestation adherent groups (RAG) with temporary land titles to restore and manage public or private forest land on the periphery of protected areas.

An increased species diversity will improve the ecological functionality of the ecosystem, its economic value both in terms of timber and NWFP, and its resilience to future climate disturbances related to climate change. The restoration success depends on the Project ensuring the achievement of the following factors that are intimately dependent on each other: (i) producing high-quality seedlings well-adapted to field conditions; (ii) diversifying the species used in the same restoration site with appropriate densities; (iii) identifying the right planting season (which may have been modified by climate change) with enough soil wetting conditions, ensuring proper seedling transfer to the field, and undertaking good soil preparation in terms of hole depth and soil water conservation techniques and mulching, according to the latest and most advance FLR experiences in this type of ecosystems.

The ILMP landscape teams will describe the restoration plans, defining: (i) the target native species prioritized by the local communities from the FLR species database of produced by MEDD (long list of prioritized species for the East Ecoregion); (ii) the field intervention modalities in terms of soil preparation and planting techniques, planting density, planting season, and planting maintenance and monitoring; (iii) the governance mechanism for an inclusive participation of all concerned actors; (iv) the capacity development needs of all participants with different tasks and roles in the FLR implementation works.; (v) the participatory monitoring system.

Plant production and planting interventions will be implemented by local community groups, with the technical support of experts from decentralized MEDD departments, private organizations (e.g. OmniVerdi), SNGF, FOFIFA, university centres and NGOs. The project will target both:

(i) The existing (and/or newly created by the project) COBA/VOI with forest management contracts in the target protected areas: the project will support COBA to revise and harmonize their management plans according to the SFM and restoration priorities agreed by all concerned landscape actors in the

ILMPs, will provide training on effective seedling production and planting restoration methodologies and coaching to guide them in the critical steps of nursery production and field forestation works.

(ii) Reforestation adherent groups (RAG) of local community members willing to undertake nursery plant production and *individual village-level reforestation* (IVLR) ? effective modality supported by GIZ/KfW - interventions outside protected areas (major focus on regaining connectivity among the critically endangered scattered small forest stands and expand them over degraded forest/pastureland within the developed landscape). The association structure of RAG will facilitate the implementation of the technical and socio-organizational stages of the FLR planning, nursery seedling production and planting interventions. In this case, in which tenure governance is not regulated by the GELOSE/GCF law, local communities may request temporary low-cost land titles or certificates issued by the local land offices allowing them to undertake FLR interventions in State-owned, Commune-owned and in some places privately-owned land. To avoid conflicts and damages to restored forests (e.g. fires and uncontrolled cuttings), land titles require negotiations, bringing together all local users and authorities to reach a consensus and validate the land title certificate. Negotiations will begin during the PIA development process and will continue with community groups interested in participating in project activities and applying for procurement funding, training and coaching support.

In both cases, forest restoration and adaptive management will have a business orientation to ensure socio-economic benefits in the short to midterm, which will facilitate community buy-in on FLR and further upscaling. The products obtained from these activities will correspond to the needs of the local community groups: some plantations will provide firewood and charcoal on the one hand and construction timber for work and service on the other. Forest management interventions will involve honey production, wild silk production and basketry partly linked to tourism services around coffee farms, shops, hotels and restaurants. A large part of the products will be sold, and another part will be used directly by the restoration community groups.

The RAG/COBA approach for community-based forest restoration and adaptive management responds to the sustainable development objectives of the Government of Madagascar (GoM) concerning, National FLR Strategy, the SDGs, including the LDN Target 15.3, the sustainable production of wood energy (SNABE[58][58]), the National REDD+ Strategy, the integrated management of water resources (GIRE), the climate change adaptation and mitigation priorities (INDC), the National Biodiversity Strategy and Action Plan (SNPAB), while creating jobs and raising the standard of living of the people.

The project will restore 10,000 ha of degraded forest land, involving approx. 32 RAG and COBA groups (eight per target landscape; about 1,600 members in total), each one responsible for about 300 ha. Direct and indirect beneficiaries of the restoration interventions will be the population of the communes where restoration sites are located.

The Output will be organized around the following Actions:

Action 1	Forest restoration and adaptive management planning
Action 2	Capacitation of community organizations involved in forest restoration and adaptive management interventions
Action 3	Nursery high-quality seedling production
Action 4	Investments and coaching for the implementation of forest restoration and adaptive wood/NTFP management
Action 5	Income generation and marketing
Action 6	Awareness raising

Action 1 - Forest restoration and adaptive management planning:

Forest restoration and adaptive management planning will take place in the framework of the priority intervention areas (PIAs) participatory designation and analysis (Output 1.1.3). The PMU will create a four-task force (one per target landscape) coordinated by MEDD (decentralized forest departments), and formed by about 8 hired experts (two for each landscape) with good experience on ecological restoration and sustainable forest conservation and management in the target regions. They will be selected from organizations already met during the formulation phase, and with good, demonstrated experience on high-quality plant production, forest restoration and adaptive management, as for instance: (i) SNGF regional centres (MEDD) with high experience in the production and marketing of seeds and seedlings from a diverse set of native, endemic and introduced plant species, as well as fruit and vegetable plants. It also undertakes applied research on the physiological, genetic, and ecological traits of the produced species, supervise other institutions in charge of species ex-situ and in-situ conservation, and provide training to practitioners involved in forest restoration and nursery production; (ii) the Universities of Fianarantsoa and Antananarivo; (iii) FOFIFA which is active in the COFAV region with important work on the conservation and sustainable management of forest genetic resources; (iv) CIRAD; (v) CI and WWF with high experience in COBA development, FLR, REDD+, forest conservation, and NTFP value chains in COFAV; (vi) the enterprise OmniVerdi with tree nurseries for the production of high-quality plant material (seeds and seedlings) of more than 50 native species, many of them included in the IUCN Red List, has developed effective planting techniques to increase soil water storage and seedling survival, and is active in biochar production from savanna

grasses for bioenergy and soil fertilization; (vii) the NGOs Tandavanala, Ny Tanintsika, Feedback Madagascar, with good experience in the establishment of tree nurseries in the COFAV region, including the production of endangered native species with high socio-economic value, and the promotion of alternative energy efficient stoves; (viii) the associations VOIALA Madagasikara, HAONA SOA, and INDRI; (ix) GIZ, in the framework of the PAGE[59][59] project has supported CBNRM organizations in the COFAV region for the sustainable exploitation and regulation of wood, charcoal and NTFPs.

The task forces will support community groups in the elaboration of detailed plans which will describe: (i) the aim and objectives of the FLR interventions; (ii) a clear statement of the expected benefits from the FLR interventions, and an agreement as to how these benefits will be shared amongst all stakeholders; (iii) a description and mapping of the site(s) to be restored (ecological conditions of the sites and neighbouring vegetation, land tenure, status of natural resources and uses, etc.); (iv) building on experts and participants? recommendations, concerns and inputs, description of the specific activities, selected species (from the National FLR Species Database for the East Ecoregion), methodologies and tools, including provisions for post-restoration maintenance needs and monitoring indicators/methodologies[60][60]; (v) the exact number and quality of the seedlings required from each species to be employed in each restoration site, and the nursery production protocols; (vi) physical and human resources needed; (vii) training needs for all actors involved in the FLR implementation; (vii) implementation schedule, agreeing on the role of each partner and detailing who will be responsible for each FLR task and calculation of the labour required to complete each task; (ix) a detailed budget of planned interventions; (x) expected results. The operational plan will define the governance mechanisms and regulations that ensure inclusive and equitable participation of the target beneficiaries, preventing conflicts with other interest groups and community members, and inconsistencies with the traditional customary regulations. It will also include a business plan to help understand the return on investments made over the next few years, information that will be used to develop a model of sustainable local business development at the landscape level, and to attract potential donors for the sustainable financing of long-term FLR interventions beyond the project life.

It is envisaged that the restoration and adaptive management plans will include actions such as the nursery production of seedlings from selected native species, including wild coffee species (Output 2.1.1, Action 3); multi-specific tree planting with pre-defined densities combining fast-growing and slow-growing tree species, depending on the level of degradation and restoration objectives; enrichment planting in existing agroforestry systems, degraded forests with a vocation for NTFP production such as honey, wild silk and basketry, and degraded habitats including endangered species such as wild Coffea spp; natural regeneration support through temporary fencing; construction of small check dams on the steeper slopes; improvement of agroforestry stands through proper terracing; selective clearing to avoid the risk of fires that could spread to the nearby forest; sustainable harvesting protocols for selected NTFP; nature trails and gardening interventions supporting ecotourism activities; etc.

Once validated by all concerned stakeholders during ad-hoc workshops, the FLR plans will be ready for implementation, as from the end of Y2 of the project. The beneficiary COBA and RAG will be partly responsible for producing the seedlings needed for this action in community nurseries managed by them (Output 2.1.1, Action 3), and will outsource part of the seedlings from other public nurseries (FOFIFA, SNGF) and private nurseries (e.g. OmniVerdi, local associations and community nurseries supported under Output 2.1.1) through applications to a specific project investment window (Action 3).

Action 2 - Capacitation of community organizations involved in forest restoration and adaptive management interventions:

The FLR task forces in each landscape will analyse in detail the natural resources management activities implemented by the community groups (COBAs, and RAG) to understand their knowhow on environmental, social and economic sustainability, the potential conflicts with other direct users and community by-laws, and the compliance with the BD conservation and sustainable forest management objectives of the protected areas (COFAV, Massif Ibity, Massif Itremo, and Midongy-Befotaka NP) where they operate.

This will guide the development of a training program for COBA and RAG members, addressing all the steps from tree nursery production protocols (See Output 2.1.1) to forest planting and adaptive management techniques, and the NRM governance mechanisms. The task force experts will develop the training program and teach the trainees from 32 community groups (about 1,600 direct beneficiaries, with a high percentage of women who are more active in certain NTFP production and marketing activities) through short theoretical sessions in experts? premises (e.g. SNGF, CIRAD, FOFIFA centres) and mainly on-the-field applied learning sessions in the tree nurseries, FOFIFA research station, the restoration and forest management sites, and through learning visits to restores/sustainable managed forest plots under other partners? interventions. Training will match field interventions throughout Y2-5 so as to refresh knowledge, monitor implementation capacity of workers, and incorporate further learning themes based on new identified needs.

Training will also capacitate COBAs to adapt their GELOSE/GCF management plans and by-laws to the ILMP/PIA priorities and agreed interventions (sustainable production systems (diversified agroforestry coffee and rice crops), adaptive forest management and restoration interventions, and value chain development).

The setup of an effective and regular system for the maintenance and surveillance of the restored/managed sites will be critical to the success of the FLR work and the long-term achievement of the project objectives. The project will make available financial resources for the hiring of community surveillance agents recruited among young unemployed in the communities nearby the restoration sites. The agents will undergo a basic training course organized by the decentralised forest departments on early Y3 of the project and will be operational throughout the following years of

implementation of the FLR work. The same training will be offered to those community beneficiaries who will collaborate to the monitoring of the restored sites.

Action 3 - Nursery seedling production:

This action will follow the same approach as the one described in Output 2.1.1, Action 3).

Action 4 - Investments and coaching for the implementation of forest restoration and adaptive management:

Following the same approach as in Outcome 2, the PMU will establish a financing mechanism to facilitate access to training/technical assistance, equipment, plant material and inputs, for project beneficiaries. The PMU will develop an Operational Manual (OM) for procurement support, and issue regular Calls for Applications under a specific window, excluding the tree nursery production activities that will be included in Output 2.1.1, Action 9):

Procurement window on forest restoration and adaptive management: this Window will facilitate access to planting and forest management material, equipment and supplies for the targeted COBA and RAG, including: (i) purchasing outsource high-quality seedlings of suitable tree species; (ii) planting equipment such as augers, pick and shovel, equipment and inputs for mulching and soil water storage, seedling protectors, manual brush cutter, watering equipment and tanks; (iii) adaptive forest management equipment and tools, such as wood collection and processing equipment (e.g. chainsaw, chainsaw leather gloves, cut resistant footwear) innovative charcoal kilns and storage bags, bee products production (e.g. modern bee hives, beekeeper clothing and processing equipment, storage and processing room facilities, packaging jars and labels), equipment and tools for breeding silk moth and producing textile silk, briquettes production (e.g. wood chipper machine, hoppers or silos, briquette production machines, briquettes drying equipment, production room equipment such as loader and conveyor belts, pallets, packaging bags bags), biochar production equipment, nature trail and gardening panels, signs, leaflets, eco-tourism office/exhibition room, equipment and materials), basket weaving tools (e.g. reed cutters or knifes, straight tipped packer, clamps, awl, etc. This Window will include a total amount of USD 837,000. Additionally, the 12 plant nurseries supported in Output 2.1.1 will contribute to the production of the necessary seedlings for the planting actions in the selected degraded forest and agroforestry sites.

The application forms should include a simple business plan with indicators and milestones to demonstrate: (i) the suitability of the selected area for forest restoration and adaptive management; (ii) the ecological restoration and adaptive management practices supported by the project; (iii) the profitability of the intervention. Applicants will be asked for co-funding in terms of cash and/or in-kind

contribution, mainly in terms of labour days for land preparation (hole digging, preparation and seedling planting and maintenance), wood collection and processing, honey collection and processing, wild silk production, fire break clearing, etc. In the case of groups involved in wood/firewood, bioenergy, biochar, honey production, basketry, and tourism business, a minimum percentage of cash contribution (to be defined in the Operation Manual) to match part of the procurement costs may be requested.

It is expected that the **forest restoration and adaptive management** activities will start in ***Y2***. The selected applicants will be asked in the ?Procurement Applicant Agreement or Contract" to undergo mandatory training and coaching sessions by the contracted experts. In the case of business development activities, applicants will be requested to undergo mandatory FBBI training on the targeted businesses (Action 5).

Action 5 ?Income generation and marketing

The project will include adaptive forest management business development themes (e.g. wood, charcoal and bioenergy production and trade; honey production and trade; wild silkworm breeding and silk textile production; basketry production and trade; bio-manure and biochar production and trade; ecotourism businesses) to the FBBI training program described in Output 2.1.2, Step 2. Training will benefit from lessons learned produced by partner organizations on business development and trade facilitation for the target forest products, such as: (i) the fuelwood platform in Diana region, and technically supported by GIZ/PAGE project, that brings together users and user organizations, civil society organizations, decentralized and deconcentrated administrative and technical services, and other development partners, that are committed to regional biomass energy plan and vision for the region; (ii) the TEFIALA VC development and marketing platforms for NTFPs (e.g. aromatic plants, basketry, honey, wild yam, firewood); (iii) the WWF supporting contract farming between Bionexx and Aromania and local producers in COFAV region; (iv) the IFAD/DEFIS support to honey VC in COFAV region; (v) the national platform for essential oils grouping 50 businesses; (vi) the regional honey platform in Boeny region, promoting dialogue and concertation among VC actors, and supporting the development of quality and traceability norms meeting national and international standards; the platform has organized business events resulting in solid partnerships between producer associations and cooperatives and major buyer companies from the region, such as PARMACE and APIFICA MELLIFERA; (vii) the Feedback Madagascar and Ny Tanintsika initiative in Amoron?i Mania for tapia (*Uapaca bojeri*) forest restoration, silk moth (*Borocera cajani*) breeding and textile silk production involving women associations, the organization of silk workers (SEPALI Madagascar Organization of Silk Workers) and linking producers with foreign trade through CPALI trade company.

The project will support COBA and RAG organizations to organize themselves and establish local businesses (and/or enhance the capacity of existing ones) for the production, processing and marketing of firewood, honey, wild silk, basketry and other targeted NTFP products. Continuous FFBI training and coaching will guide COBA and RAG members throughout the business development and

organization following: (i) ethical, gender and socially responsible criteria in business decision making, management and employment, (ii) the enhancement of health and quality in production; (iii) and the adoption of organic certification standards from ecologically-sound production/harvesting to processing and marketing. The target market will be tourism operators in the target landscapes (e.g. ecotour companies, hotels, restaurants, shops) with the aim to establish direct links between producers and consumers, and the possibility to involve target communities and COBA/RAG locations in the tourism circuits.

Building on the best practices developed by project partners in the target/other regions to create a legal basis to regulate firewood and TFPs and facilitate VC links, commercialization centres and market access through VC platforms[61][61], the project will support producers to participate in existing value chain platforms and/or establish informal landscape-level platforms involving COBA/RAG producer organizations and/or cooperatives, equipment/input suppliers, wholesalers, retailers, hotels, restaurants, tour operators and exporters active in the organic certifications market segment. The FBBI learning activities will inform farmers about existing VC platforms and the importance of becoming platform members to improve the production, processing and marketing of the firewood/NTFPs. The project investment window (Action 4) will facilitate COBA/RAG access to production/processing/marketing equipment, inputs and materials through procurement applications and will cover the functioning costs (platform meetings and venues to exchange information, facilitate commercial collaboration and promote ICT technologies, awareness materials, members attendance to fairs and national platform meetings, etc.) of the informal landscape platforms.

Action 6 ? Awareness raising:

The implementation of the forest restoration and adaptive management interventions will be matched by an effort to raise the awareness of the target beneficiaries, and the broader society in each landscape, on the aims, value, and objectives of the forest and landscape restoration effort, and more broadly on the need to conserve and sustainably manage the forests of Madagascar. Communication material will be produced under the leadership of the decentralized forest departments (MEDD) for this purpose. These will include small brochures, posters, cards and booklets on the native flora and ecosystems, their value, and the FLR work. All the materials will be very visual and user-friendly, so as to reach the broadest section of the population and to be appealing to the young and the students. The materials will be disseminated during the actions organised by the project, social events, and other usual channels of dissemination. Further communication work will be carried out using media channels - especially the television and radio. The PMU will ensure a regular coverage of the work, and updates on the progress of the project, by inviting partner organizations and field champions to participate in broadcasts and involving media operators through field visits and interviews. The project will allocate USD 150,000 to the production of a communication plan and materials for both Outcome 2.1 and Outcome 3.1.

***Output 3.1.2**: Conservation of endemic coffee agrobiodiversity in situ and ex situ (garden coffee systems) enhanced*

Wild coffee species are critical for coffee crop development and, thus, for the sustainability of the global coffee sector which is critically sensitive to climate change impacts. Moreover, a large number of native coffee species in Madagascar are caffeine-free or have low-caffeine content which offers new development opportunities for the growing decaffeinated coffee market. Despite this fact, the accelerated deforestation and degradation of the natural habitats hosting wild coffee species, and the limited knowledge of the numerous wild species populations, their distribution and conservation status, makes it alarming and urgent to undertake the inventory and mapping of the remaining populations of wild coffee species, their ecological restoration, and the implementation of in-situ and ex-situ conservation measures.

Madagascar is one of the most genetically diverse places on the planet for coffee with 65 wild coffee species (52 species belonging to the *Mascarocoffea* sub-section and 9 species to the *Baracoffea* sub-section) under different habitat types, from lowland forests to high mountain ecosystems across the northern, eastern and western parts of the island. It represents half of the 130 known species (the rest of Africa only has 48 species). Unknown species may still occur, as evidenced by the recent discovery in an expedition by Kew Garden and Malagasy experts of six species that are ?new to science?[62][62]. Fifty Malagasy *Coffea* species from the *Mascarocoffea* sub-section have low or no caffeine content, higher resistance to pests and diseases, are adapted to a wider range of soil and climate conditions, are drought tolerant, and are more robust plants with flowering on aged stems and shorter ripening period.

Despite the overwhelming agronomic and economic success of Arabica and Robusta, climate change is exacerbating the existing threats to the global coffee sector (e.g. increasing incidence and duration of drought, the spread and escalating severity of devastating fungal pathogens and/or spread of other diseases and pests). Meeting these challenges will imply an increasing demand for germplasm - the raw material of crop development ? for which wild variants of Arabica and Robusta will be of primary importance, but other wild coffee species are likely to be required.

In addition to maintaining plants *in situ* in their natural habitats, maintenance of plants in an *ex situ* field genebank offers feasible medium- and long-term storage, conservation of genetic diversity of Coffea species which could be lost in the wild due to natural and anthropogenic processes, and an easy access for characterization, evaluation, and commercial breeding purposes. The Kianjavato Coffee Research Station (KCRS) managed by FOFIFA (the National Centre of Applied Research and Rural Development) has a vast ex situ collection of Malagasy coffee species. KCRS was established with the main objective of improving *Coffea canephora* (Robusta coffee) through selection and making improved genotypes available to coffee growers in southeastern Madagascar, as well as providing advice on improved cultivation practices. In the second half of 20th century FAO and French research

institutions collected wild Malagasy *Coffea* species for ex situ germplasm preservation, and since 2002 the Ueshima Coffee Corporation (UCC) of Japan has funded the maintenance of the field genebank. On the one hand, the replacement of the germplasm has been conducted through seeds collected from KCRS accessions without the knowledge that hybridization or cross-contamination with pollen among different Coffea species has occurred (e.g. between *C. kianjavatensis* and *C. montis- sacri)*, an issue that has significant implications for the conservation of wild Coffea species and for the management of ex situ genebanks. On the other hand, the genetic diversity of *in situ* populations of certain species (e.g. in the case of *C. kianjavatensis, C. montis-sacri* and *C. vatovavyensis* from KCRS collection) is lower compared to the *ex situ* populations, which may indicate genetic loss in the wild due to deforestation and the significant decline in wild populations.

The project will support the development of measures to improve the in situ and ex situ conservation of the wild Coffea species occurring in the target regions. At the beginning of year 1, the PMU will organize a work plan with KCRS/FOFIFA and KMCC, the main partners of this output, to specify the details of the planned actions, which can be summarized as follows:

Action 1	Assessment of status of wild *Coffea* species collection, and commercial coffee improvement through new Arabica and Robusta varieties and inter-specific hybridization in KCRS station
Action 2	Renovation of KCRS equipment for ex situ species conservation
Action 3	Improvement of knowledge about the conservation status of wild Coffea species populations in the target regions
Action 4	Restoration of wild coffee species populations

Action 1: Assessment of status of wild *Coffea* species collection, and commercial coffee improvement through new Arabica and Robusta varieties and inter-specific hybridization in KCRS station. The project will support the performance of laboratory analyses to better understand the genetic diversity and cross pollination between species in the KCRS accessions. As a result, the project will support KCRS to increase efficiency in the utilization of the limited space of the station (e.g. redundant genotypes can be removed) making room for new collections representing higher genetic diversity. In order to do so, replacement plantings should be performed with plants propagated either clonally (through cuttings or tissue culture) or through seeds generated by controlled pollination. Moreover, additional plant material should be collected in the wild to augment KCRS collection so as to capture more of the genetic diversity that is present in wild populations (Action 3). Considering the large collection of coffee species accessions of the research station, the project will select a limited number of maximum 6 species (those most threatened and/or those with the highest potential for commercial use in hybridization with Arabica and/or Robusta) for conducting genetic analyses of their *ex situ* and

in situ populations. With the results, guidelines will be produced on how to conserve and better manage the genetic variability of the Station's species for its implementation beyond the scope of the project. With the aim of creating local capacity and knowledge, this activity will be agreed with university centres in the target regions for the completion of doctoral theses by students. The project will make available grants of approx. USD 20,000 each to cover the costs of 2 students (desk and field work; international travel) and the analyses to be carried out.

Action 2: Renovation of KCRS equipment for ex situ species conservation. With the support of KMCC, the project will assess the status and renovation needs for the effective functioning of KCRS station and will make available procurement investments for renewed equipment and inputs, such as nursery structures, small laboratory equipment, production containers, seed beds, irrigation equipment, storing room/refrigerator, and inputs (e.g. substrate, compost, growth regulators, etc.). The project will make available USD 100,000 through a LoA with FOFIFA to facilitate access to the necessary equipment and inputs, training, PhD research work, and field missions/restoration interventions to wild Coffea habitats in the target landscapes.

Action 3: Improvement of knowledge about the conservation status of wild Coffea species populations in the target regions. The project will support the organization of inventorying and plant material collecting missions to natural populations of wild coffee species in the target regions, with special attention to the neighbouring protected areas (e.g. several *Coffea* species in the COFAV corridor covering the three regions; *Coffea buxifolia* and Tapia (*Uapaca bojeri*) populations in Massif ibity and Massif Itremo, both bordering the targeted communes in Amoron?I Mania; Ranomafana NP bordering communes in Fitovavy-Vato, and Midongy-Befataka NP in Atsimo Atsinana). The missions will include staff from Protected Areas services, local Forest Administration, KCRS, Kew Garden experts, COBA members and researchers/students (this could be part of the doctoral thesis supported by the project) from the regional universities involved in the doctoral thesis (Action 1). The project will develop protocols with specific indicators to map and monitor trends in the visited wild coffee species populations, that will be adopted by the park rangers, forest officers and COBA members with management transfer plans in forest areas near to wild coffee populations. KMCC will organize training to all involved actors about the recognition of the different wild coffee species and the monitoring of specific indicators about species populations trends. According to national legislation and internationally recognized standards for the collection of plant and forest reproductive material guaranteeing the identity, performance, quality and health of all collected plant material and source wild populations, the field teams will collect plant material to produce seedlings at KCRS and in community-nurseries managed by COBAs and community associations active in/around the protected areas. The project will allocate USD 80,000 to organize 4 annual missions of about 10 days each involving 10 participants throughout Y1-4.

Action 4: Restoration of wild coffee species populations. KMCC will undertake a climate envelop analysis of current/future habitat suitability for the wild coffee species in the target regions to identify potential areas with favourable conditions to restore/expand wild coffee species populations. KCRS and the 12 community nurseries supported by the project (Output 2.1.1) will use the collected plant material (Action 3) to produce seedlings from the inventoried wild populations of *Coffea* species in the

target regions. It is expected that KCRS and the community nurseries will produce approximately 5,000 seedlings/yr over Y3-5 each, with a total number of 135,000 seedlings of the different inventoried wild Coffea species in the four target regions. The total number of seedlings may increase as from Y4, considering the greater ease of production through cuttings. Restoration sites will be defined based on the potential area suitability (KMCC analysis) and in existing degraded wild coffee population areas.

The project will follow the principles defined in the Global Conservation Strategy for Coffee Genetic Resources[63][63], of which FOFIFA is a partner member, and will take advantage of the Global FOLUR IP to facilitate linkages and information sharing among Coffea spp ex situ collections and conservation programs in other child countries, and research partners (e.g. Kenya Coffee Research Institute, Ethiopian Biodiversity Institute, CATIE, CENICAFE, IAPAR, CCRI[64][64], among others).

Output 3.1.3 *Long-term financing of the landscape restoration and sustainable coffee agroforestry production piloted through innovative mechanisms.*

In the framework of the Technical Cooperation Project (TCP) "Support for the improvement of governance and financing of the forest sector in Madagascar", FAO is supporting MEDD in the assessment of existing forest-related public funds (REDD+ Fund, Forest Fund) and the development of a single ?National Forest and Landscapes Fund (NFLF)? under the FLR National Strategy umbrella that coordinates all forest-related fundraising interventions and efficiently manage public funds to address the national priorities on forest restoration, management and conservation. MEDD has identified PES as a priority mechanism to ensure the sustainable financing under the new NFLF in terms of the protection and sustainable use of ecosystems that respond in an integrated manner to BD conservation objectives and sustainable livelihoods? needs.

A number of PES projects have recently been implemented in Madagascar with limited positive results, mainly due to the lack of clear conditionality to the BD conservation results and the non-inclusion of direct forest users (e.g. tenure rights problems, such as in the case of migrants without historical customary rights). Careful evaluation of the strengths and limitations of existing PES initiatives in Madagascar (e.g. Carbon PES in Vohidrazana-Mantadia Corridor**;** REDD+ PES project in Makira protected area; PES project in the mangroves of the Baie des Assassins of southwest Madagascar using Plan Vivo standard) have produced the following recommendations for their effective implementation[65][65]:

? Local elite capture: PES project developers need to ensure adequate involvement of all concerned actors in project formulation, implementation, and benefit sharing. Different actors? interests, knowledge, and constraints play an important role in determining how a programme is structured, how economic and institutional benefits and costs are distributed, and what conflicts may arise. Vulnerable population with limited accessibility appeared to be insufficiently involved in PES development phases and benefit sharing, affecting the project?s feasibility, impacts (e.g. degradation threats remain; higher conflicts between population groups), legitimacy and stakeholders? trust.

? Lack of conditionality to conservation results: PES agreements often fail to meet the conservation objectives of the concerned protected areas.

? The need for capacity building within local organizations and government agencies.

? The need for alignment of government institutions for better policy cross-sectoral coherence, and clarification of land tenure before securing PES opportunities.

The project will build on FAO GEF/TEFIALA lessons learned to assess barriers and opportunities for the preparation of one PES bankable project on ?zero-deforestation sustainable coffee agroforestry and forest landscapes contributing to C emissions mitigation? around one or two of the targeted protected areas - COFAV corridor, Massif Ibity, Massif Itremo and Midongy-Befotaka NP.

TEFIALA and FOLUR Child Project in Madagascar will join forces to develop solid and complementary PES bankable projects in the eastern mountains of Madagascar. The PMU, in consultation with TEFIALA managers, will identify potential PES certification organizations with interest to become involved in the preparation of a PES proposal. FAO will support this process, building on the knowledge and contacts already established with PES certification organizations, such as Plan Vivo, with successful PES projects around coffee landscapes and carbon (e.g. the registered Plan Vivo Carbon Credit Project ?CommuniTree Carbon Program? in Nicaragua). Contacts with pre-selected PES organizations will help understand what services (e.g. carbon, water, tourism) provide better opportunities for a PES bankable project in the target coffee landscapes. Discussions should lead to an initial partnership agreement with one organization to jointly prepare a PES bankable project proposal.

By mid-Y1, the PMU will hire a PES project preparation expert to organize a data collection process and guide field teams to collect environmental and socio-economic information. The expert will build on the data collection needs defined by the pre-selected PES certification organization. The expert will participate to field visits and workshops as from early-Y2 to explore local stakeholders? views regarding potential impacts, risks, and opportunities stemming from PES plausible future conditions, which in turn can potentially attract buyers of carbon credits and other services. Participatory workshops will be held in the four target landscapes involving key stakeholder groups (e.g. local administrative authorities, such as village chiefs, school heads and local health representatives; local management associations; CBNRM organizations; and representatives from the local communities in the target villages). The PES expert will prepare a mission report and introduce results from the data

collection process to the PMU and project partners about project beneficiaries? perceptions and willingness to be part of a PES initiative, and workable options to formulate a PES bankable proposal.

Building on discussions with PMU and partners, and the selected PES certification organization, the PES expert will prepare by mid-Y2 one concept note to be shared with the selected PES certification organization. The PES certification organization will provide comments to guide the development of a full bankable project proposal that will be completed by the hired expert and submitted to the selected PES certification organization for its certification and registration. In the framework of the recently approved Tefiala GEF project in Madagascar, FAO has already discussed with Plan Vivo[66][66] a potential partnership to support PES project development in Madagascar. The Child Folur project will participate in this collaboration framework, as it represents a good opportunity to certify sustainable NRM in the target landscapes and facilitate linkage with interest buyers of carbon credits (e.g. Plan Vivo Certificates) provided by the project. The project will allocate approx. USD 90,000 to cover the costs needed to organize field missions, develop the concept note, finalize the project proposal writing, and the validation process undertaken by the PES certification organization.

The PMU will also seek the development of a financing campaign ?adopt a coffee tree? in partnerships with SFCC to raise funds from business companies and consumers of *?certified? (organic, ?fair trade?, etc.), ?origin?* and *?specialty?* market segments/niches willing to sponsor the conservation of wild coffee species and their use to improve the organoleptic properties and CC adaptability of caffeine and de-caffeine Arabica and Robusta coffee from Madagascar. This may also include linkages with tour fair-trade and biodiversity-related tourism operators to agree on a touristic package targeting coffee lovers from European countries eager to make their vacations in the biodiversity- and cultural-rich coffee landscapes where the coffee they consume is produced. These ideas will be discussed in the strategic partnership between FAO and SFCC and a development plan will be agreed with the objective to have a package prepared to become operational and agreed with all concerned partners by Y4 (possibility of piloting it) or Y5 (to be implemented beyond the project life).

Component 4: Knowledge Management and M&E

Outcome 4.1: Knowledge shared at local and international levels (through the FOLUR global platform) and close monitoring of the project

Knowledge sharing, learning and synthesis of experiences is directly built into the project as its fourth component, with the critical purpose to enable upscaling of successes and learning from failures throughout project implementation and beyond. The project will catalyse knowledge sharing from the bottom up (from the landscapes to the national, regional and global levels), from the top down (from global to landscape), and horizontally (across peers in neighbouring landscapes and countries) to maximize cross-fertilization of ideas and innovation. Good practices and lessons learnt from the project

will feed into the Global Knowledge to Action Platform (K2A), while tools, methods, and expertise will be drawn from the Global FOLUR IP Platform to enhance project implementation. The K2A will critically serve to leverage South-South cooperation with other FOLUR beneficiary countries - e.g. Kenya, Ethiopia, Burundi for coffee, Tanzania for rice, as well as the Sustainable Rice Landscapes countries in Asia (Thailand, Indonesia, Vietnam, Cambodia non-FOLUR, and hopefully China).

The project team will work closely with the members of the Global FOLUR IP Platform on issues and strategies, engaging key private and public sector actors, and advising on policies that can shift producers? incentives toward sustainability. This will facilitate diffusion of innovations and collaborations that can reach further with greater impact than the project could achieve alone. Working together with other coffee- and rice-producing countries and the Global Platform, the project team will strive to influence coffee value chain policies and practices from the top down and the bottom up.

Failure to monitor and evaluate rural development actions usually leads to underestimate their impacts and prevents the adjustment or modification of unsustainable or inadequate measures with others that are environmentally-sound and socially-beneficial and economically-viable. This Outcome will cover the operational costs, equipment, capacity development and technical assistance needed to enhance national capacity to monitor the impact of project interventions in the long-term. The monitoring and evaluation system is intended as a learning process among all concerned stakeholders within an adaptive management context, featuring mutual learning about sustainable coffee value chain development, the sustainable intensification of agriculture production and the restoration of ecosystem services in biodiversity-rich coffee landscapes, results and opportunities for reflection, correcting mistakes, and prioritizing the use of scarce resources to meet changing needs and/or circumstances.

Output 4.1.1: *Knowledge products, tools and approaches developed and shared at the national level and through the Global Knowledge to Action Platform of FOLUR and other relevant platforms.*

With the support of the Global Knowledge to Action (K2A) Platform of FOLUR, and with the objective of documenting and disseminating knowledge - ILM planning process, multi-stakeholder capacity development, tenure governance, policy making, innovation for the sustainable intensification of coffee agroforestry and diversified rice production, VC business and partnerships, and sound ecosystem services restoration techniques, among others - the project will develop a systematic knowledge management process to capture and exchange lessons learned and best practices and will support knowledge development and communication activities to systematize and disseminate them in Madagascar and the other FOLUR countries. It will be structured under a knowledge management and communication strategy for the project that will address the needs of practitioners, decision-makers and local stakeholders, making use of both traditional and new communication media and networks. The project will design the strategy and prepare an implementation plan, describing communication and knowledge sharing methodologies, tools and materials adapted to the different audience needs.

The hired communication company will organize a training workshop to improve the capacity of all the project staff, with special focus on the ?knowledge management and communication? staff. The aim of this exercise will be to underline that KM and effective communication should be viewed as a fundamental part of each team members? job, and not as an ?extra effort?. This will allow staff at national and landscape level to disseminate the project to the target local audiences through communication events with beneficiaries (e.g. information days, on-farm demonstrations, local fairs, brief radio programmes, information vans and community announcers) and national audiences (e.g. organization of workshops and conferences, web dissemination).

Co-ordination and dialogue mechanisms will include the landscape-level SC meetings, the National FLR Committee (NFLRC) at national level, and the FOLUR Global Platform globally. Each will play a role in disseminating knowledge and learning generated by the project. In particular, the coffee (and NTFP VC) platforms being supported under Output 2.1.2 will serve as a tool for gathering and disseminating lessons learned and encouraging their uptake by the different actors from the field to the end market. Landscape SC meetings and workshops, policy development workshops, VC platform events, FFS and FFBI learning events, and landscape restoration workshops, will provide opportunities for individuals and organizations to share their experiences and best practices regarding what has worked, for whom and at what cost across the landscapes.

Lessons learned will be produced through the analysis of regular data collection on actual experience at landscape level - the most important levers for effecting change, most notably in the reduction of deforestation rates, but also in other key impact ecological, social and economic indicators, with an emphasis on measuring contributions to SDGs, and AFR100. Efforts to capture lessons will have at their core a continuous process of discussion, reflection and reporting involving the project team, partners and stakeholders, which will be useful both for drawing lessons and for adaptive management of project actions. At landscape and district level, activities will include, for example, focus group discussions with smallholders, where experiences and ongoing challenges will be discussed, and potential solutions identified. Capturing lessons learned along the way will help to: (1) inform future approaches; (2) inform global, regional and national policy dialogues regarding the best options and approaches for achieving reduced deforestation commodity supply chains; and (3) improve the impact of GEF-supported projects and programs.

Knowledge products will include analytical studies, policy briefs and a range of communication materials, including videos, brochures, website posts and blogs. In the case of literate people, the project may produce user-friendly written materials in local dialects/languages, such as training modules, planning tools and guidelines, policy briefs, sustainable VC development ? from nursery production to marketing- and ecological restoration implementation tools and guidelines, monitoring tools, to be printed or shared in the web. Moreover, periodical web news about project implementation results, and materials on different topics for web training programmes and web meetings and workshops will be produced. The hired communication company may be requested and guided to register web lectures and field work/interviews, to support web training events through the web. COVID-19 pandemic restrictions may require higher efforts to organize, facilitate and develop audio-visual contents for remote learning, meetings and workshops. A series of performances (e.g. jingles,

drama and traditional dances) will be prepared together with grassroot groups to encourage participation and facilitate the transmission of messages, and knowhow about SLM/SFM best practices will be shared through media, such as village radio, and mobile phones.

In the case of illiterate people, the project team, assisted by the hired experts, will develop other tools such as the production of short very practical videos with images to describe the implementation of different project interventions. The videos can be sent through mobile phones to practitioners to use in their daily work. Likewise, the project team may appoint someone from the staff to periodically visit the field and make short videos, music video clips on the different stages of project implementation, so that visual information can enrich reports sent to technical experts to remotely analyse the effectiveness of the actions undertaken by the project beneficiaries. This will help improve communication whenever COVID-19 pandemic restrictions may prevent the organization of field visits. Moreover, published and online literacy materials will be produced to build a minimum education level (reading, writing and basic mathematics) among illiterate vulnerable beneficiaries so as to facilitate access to relevant information, such as written plans, guidelines and regulations, be able to read call for tenders and fill requests to funding applications, etc.

Successes of the project will be also showcased at international level, through participation in fora of relevance, including regional conferences such as AFR100[67][67] or GLF[68][68] Africa, ICO. Best practices and success stories will be capitalized and shared through adapted knowledge platforms (e.g. WOCAT[69][69] or the recently launched UN Decade on Ecosystem Restoration platform FERM[70][70]) and relevant online Communities of Practice, as a means to valorise Madagascar?s contribution to the Bonn Challenge or the UN Decade on Ecosystem Restoration, raise the awareness of potential technical and financial partners, and inspire other countries.

The project will take advantage of the Global FOLUR K2A services to engage with global, regional and national networks, platforms and initiatives of relevance to share experiences while bringing learning back to relevant audiences in Madagascar, and allowing for cooperation and networking among peers, awareness raising and ultimately upscaling. Targeted networks and initiatives will include those focusing on the coffee and rice value chains (e.g. International Coffee Coalition (ICO), Inter-African Coffee Organization (IACO), Slow Food Coffee Coalition (SFCC); Coalition for African Rice Development (CARD), Competitive African Rice Initiative (CARI), Sustainable Rice Platform (SRP) and FAO?s Sustainable Rice Landscape Initiative (Sustainable Rice Landscapes Consortium/SRLC)); on sustainable and climate-smart agriculture (e.g. Global Alliance for Climate Smart Agriculture (GACSA)), and on landscape restoration (e.g. Global Partnership on Forest and Landscape Restoration (GPFLR), Global Landscape Forum (GLF), and African Forest Landscape Restoration Initiative (AFR100)). In addition, Madagascar is one of the beneficiary countries of FAO?s

Forest and Landscape Restoration Mechanism, a global program targeting 20 countries throughout the globe, that leads implementation of 5 national child projects under the GEF6 ?The Restoration Initiative? and as such, the project will benefit from a wealth of learning opportunities (regional / global workshops and trainings, online Communities of Practice) on selected topics.

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Output 4.1.2*: Operational project M&E system in place.*

This output will focus on the set up of a Monitoring & Evaluation framework for the project, and on the integration of the Madagascar project into the wider FOLUR monitoring system. Monitoring involves the systematic collection and analysis of data over time to determine if conditions have changed or if actions have caused changes or trends. Monitoring, therefore, helps reduce uncertainties and informs decision-making to improve outcomes. It also helps understanding why project interventions work or fail. When conducted in a participatory way, effective monitoring is an essential element of adaptive management because it promotes mutual learning among participants and helps to better understand restoration efforts and impacts.

The PMU monitoring team will meet key informants from MEDD and MINAE in charge of monitoring and reporting about national commitments to the Bonn Challenge/AFR100 (Bonn barometer of restoration progress), SDGs including Target 15.3 aim at achieving Land Degradation Neutrality (LDN) by 2030, INDC, and SNPAB, to gather information about monitoring frameworks and indicators linked to the project objectives and interventions. Once the ILMP planning process starts, the teams will gather baseline information and elaborate the initial values for the selected indicators to monitor the performance and impact of the prioritized interventions.

The ILMP will include a flexible and practical monitoring framework, using agreed-upon indicators. The analysis of the collected data will allow the project to understand whether the prioritized actions and practices on ecological restoration, sustainable intensification of agriculture production and value chain development are properly implemented, and whether responsible and shared tenure governance adequately address SNRM transfer, multi-sectoral integration, direct and vulnerable users? inclusiveness, livelihood improvements and BD conservation objectives. The project?s adaptive-management approach will help monitor intermediate performance and results throughout the project life to help incorporate modifications in response to new needs or project design mistakes, develop and share best practices, and contribute to the national FLR reporting system.

Monitoring plans, indicators and data collection will occur at various levels: (i) proposed intervention level, such as forest restoration, agroforestry coffee and diversified rice production, capacity development, community-based production groups/cooperatives creation and business development, value chain platform development, etc., so that the beneficiaries are empowered and acquire the habit of analysing the causes of what works and what does not, and are an active part in the search for solutions and the dissemination of good practices; this implies major efforts to simplify as much as

possible and define monitoring methodologies accessible to poor and vulnerable practitioners, and their gender, age and ethnic context; (ii) landscape level, defining an integrated monitoring plan for the different priorities of restoration, sustainable management and conservation defined in the ILMPs, their interrelationships and their impact on the improvement of environmental, social and economic conditions of the landscape as a whole. The Landscape Steering Committees (LSC) will have a fundamental role in monitoring at this level to highlight problems as soon as possible and convene the landscape actors for a rapid response that provides solutions, as well as to extract lessons learned about landscape-level improvements and impacts; (iii) project level: the PMU monitoring staff will have a fundamental role at this level, which will focus on responding to the project indicators, which will be reviewed in the project inception workshop to effectively monitor the performance and impacts of the project and its translation in terms of global environmental and socioeconomic benefits and contribution to the Global FOLUR IP. Clearly, it will be necessary to establish effective dialogue mechanisms between the collection and analysis of data at the three levels so that they provide positive feedback and the reporting to the GEF and FOLUR IP is more effective. The analysed intermediate and final monitoring results, whether they are positive or negative, will be converted into lessons learned that will be translated into the most appropriate communication format for each beneficiary group (with a gender, literacy and cultural view), communicated to women and men through sensitization community meetings, and used by the national and local policymakers for the refining/production of accompanying implementation guidelines supporting law improvement/enforcement, and landscape/community-based bylaws.

The PMU will ensure the adoption of qualitative indicators to support the establishment of learning hubs (rather than information hubs) at the child project and Global FOLUR levels, supporting learning in three main areas: socio-cultural, economic and environmental development. Each area should focus on indicators to measure:

? Social transformation vis-?-vis knowledge, attitudes and practices, which can be monitored through methods such as KAP[71][71] surveys. Attention should be given to ensuring suitable ethnographic methods are chosen for the project (focus group discussions, in-depth interviews, participant observation, participatory analysis methods, etc.) and that a combination of qualitative and quantitative methods are applied. Similarly, attention should be given to monitoring how far women, youths and other vulnerable groups are being engaged in decision-making roles and access to services (as opposed to focusing only on participation rates);

? Economic transformation from the perspective of generating inclusive, sustainable and resilient development in the intervention areas. Attention should be given to measuring costs and return on investment, because rural beneficiaries do not generally know what their costs are in relation to the income they generate. In addition, monitoring should relate to relevant SDGs.

? Ecological health of forests, agroforestry and other farming systems subjected to ILMP intervention priorities. This would also support reporting linked to the AFR100, the CBD/NBSAP/Post-Aichi Targets, LDN and the NDCs.

The PMU will organize annual meetings with key staff from MEDD and MINAE to introduce monitoring results, with the double objective to share best practices and influence landscape-level interventions throughout the country, and to support the national reporting to the Bonn Challenge/AFR100, UNCCD, CBD and UNFCCC.

The FOLUR IP will create synergies, enhance learning, and underpin and scale up the success of the programme by providing support for knowledge generation and exchange, monitoring and assessment of progress in achieving program objectives. The IP will coordinate and maintain stakeholder engagement at the national, regional, and global levels: participating countries and organizations will benefit from sharing of expertise and opportunities for South-South experiential exchange through a variety of events for sharing best practices.

(i) Alignment with GEF focal area and/or Impact Program strategies

The project will adopt an ILMP/FLR approach that will directly contribute to two GEF Focal Areas (FA) and two FA objectives *(BD-1-1 and CCM-2-6)* and the IP FOLU. The project will support activities to facilitate the involvement of local communities in the restoration and sustainable management of forest, and zero-deforestation coffee agroforestry and diversified rice production systems at landscape level, raising awareness on the importance of ecosystem restoration for CC mitigation, the conservation of BD and the provision of ecosystem goods and services (including genetic diversity) supporting sustainable agriculture intensification. By applying a landscape approach, the project will focus interventions in both protected areas and the surrounding production landscape ? with the recognition that these are strongly connected and interdependent 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 undertake participatory mapping of priority degradation hotspots in the target landscapes, thereby enhancing local ownership, and agreeing on priority restoration and adaptive-management interventions that help restore connectivity among fragmented habitats and enhance landscape functionality and ecosystem services on which the sustainable management of natural resources depends.

The long-term social benefit and economic viability of the ecological restoration and SNRM interventions will be addressed through effective public-private-partnerships (PPP) effective models based on environmental and ethical certification standards to increase the range of markets for local coffee (and other agriculture and NTFP commodities) producers and guarantee stability and adequate prices over time through strong direct contract farming between end-market buyers and local

producers, all of whom are committed to ecological and social marketing standards. The promoted certification standards for zero-deforestation and ethic value chains are directly linked to the FLR objectives of (i) Maintaining and enhancing natural ecosystems within landscapes; (ii) restoring multiple functions (ecological, social and economic) for multiple benefits for the concerned stakeholder groups and tailor to the local context (socially-fair and organically produced coffee/fruit trees, rice/legume diversified crops, and forest honey, basketry, wild silk, firewood and eco-tourism); (iii) support participatory responsible governance to ensure inclusive and fair transfer of NRM; and (iv) adaptive management in ILMP implementation to enhance the conservation and adaptation needs of crop varieties and wild species and genetic diversity ? such as the high diversity of wild coffee species and wild silk tapia woodlands - reflecting changes in climate and other environmental conditions, and to permanently generate knowledge and ensure knowhow transfer and long-term adoption of innovative restoration and management practices and trade segments. The emphasis of the project is indeed in restoring and sustainably utilizing the ecosystem services provided by the broader landscape (sub-watersheds) for high-quality production systems and markets, and this cannot be done working in the protected sections of the landscapes only. The surrounding productive lands also needs to be managed sustainably in order to protect the whole watersheds and the PAs from further degradation.

The project is designed to mainstream BD conservation and CC mitigation objectives and practices into the forestry and agriculture sector which are the key sectors impacting Global Enviornmental Benefits (GEB). 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, improving and changing production practices, and developing policy and regulatory frameworks and financial mechanisms) and CCM 2.6 (Demonstrate mitigation options with systemic impacts for food systems, land use and restoration impact program).

The project is aligned with the FOLUR Impact Program (IP) objective to build a global coalition to engage stakeholders in the major food systems and supply chains, including existing platforms such as the Food and Land Use Coalition, Tropical Forest Alliance, Consumer Goods Forum, Bonn Challenge, and others to work collectively with countries toward achieving sustainability. In the specific case of Madagascar and targeted rice and coffee value chains, the project will contribute to the GoM commitments in terms of forest and landscape restoration in the framework of AFR100/Bonn Challenge, and to the international coffee and rice organizations and coalitions (e.g. ICO, IACO, SFCC, CARD, SRP, GACSA) with the mission to strengthen these global commodity sectors and promote sustainable expansion of market-based environment for the betterment of cooperation among all participants in the rice and coffee sectors.

In line with FOLUR IP, the project will: (i) strengthen engagement of the private sector involved in the rice and coffee VCs through the revival and strengthening of the membership and functioning of VC platforms with the effective participation of all concerned private actors (especially POs, cooperatives and domestic and international buyer companies) and the development of PPP around inclusive agribusiness agreements, in which SFCC members will play a fundamental role in the case of coffee; (ii) improve policies on land tenure and sustainable NRM, zero deforestation, gender and equity, and

sustainability standards in supply chains; and (ii) catalizing opportunities to bring additional financing through the investment of private companies involved in PPP and interested in PES.

The approach of the Child Project to stimulate innovation through brokering or facilitation of group processes that enable diverse stakeholders - public and private institutions, organizations and domestic/international business operators - to interact, experiment, and learn together for the governance of NRM and production processes, will build on and contribution to the FOLUR program strategy notably through the Global Platform. Lessons learned from the development, implementation and monitoring of ILMPs that prioritize multistakeholder VC platforms and PPP inclusive agrobusiness agreements around coffee and rice (and complementary crops and wood/NTFP commodities), that contribute to zero-deforestation, restoration of ecosystem services, sustainable intensification of diversified production and increased livelihoods of the vulnerable population of the target landscapes, will be shared with the FOLUR IP partners and the members of global platforms and coalitions.

(ii) Incremental/additional cost reasoning and expected contributions from the baseline, the GEFTF, LDCF, SCCF, and co-financing

The GEF incremental finance will build upon the baseline projects to support the country in shifting from unsustainable coffee and rice production and irrational exploitation of forest resources causing land degradation, deforestation and BD loss towards the ILMP of priorities on ecological restoration, the responsible governance of climate-smart NRM, diversified and zero-deforestation shadow coffee and rice/legume production systems that are part of ethic and green VC development at the landscape level, supporting both BD conservation and local livelihoods. This will be done by implementing an integrated cross-sectoral approach following the FLR principles to address land degradation and deforestation in a comprehensive manner:

(1) Strengthening and developing supportive policies that incentivize, facilitate, and mobilize the implementation of ILMP/PIA plans. The project will support policy improvement and formulation to effectively address the wide range of multi-sectoral and multi-stakeholders? critical aspects for ILMP/PIA planning and implementation, resulting in specific instruments (strategies, legislation, regulations, accompanying guidelines, etc.) that cover topics such as inter-institutional and stakeholder coordination mechanisms, integrated land uses, SNRM, incentives, tenure rights and obligations, incentives, certification and market opportunities, and allows to respond to the objectives of LDN, zero-deforestation and BD conservation. ILMP-supportive policies and instruments should set out pathways to mobilise on-the-ground action through increased capacity of all stakeholders involved, including extension services, network creation, partnerships, certification programmes, etc.

(2) Engaging all concerned actors and supporting participatory governance through the ILMP institutionalization (LP, LT and LSC), responsible tenure governance for the effective transfer of SLM/SFM management rights, value chain platforms and PPP for inclusive agribusinesses linking producer organizations and buyer companies linked to fair trade, bio, and specialty coffee certification market segments. Leveraging on structures and government commitments on FLR, LDN, CC A/M , and BD conservation and CBNRM transfer, the incremental finance will support the development and specification of accompanying implementation measures to support a more conducive and harmonized cross-sectoral policy framework, compliant with the ILMP priorities and ethic/green market opportunities for the target VC commodities. It will increase understanding of the government regarding the multidimensional benefits of ER, SLM, SFM and VC development, support the identification of priority interventions, and increase capacity for cross-sectoral landscape planning, monitoring and law enforcement.

(3) Scaling up locally-adapted best practices on ILMP participatory planning, ER, CC A/M, BD conservation, SNRM and Value Chain development at landscape level. The availability of climate-smart innovative approaches, practices and technologies to serve as models will be increased. FLR interventions ? including forest restoration and protection measures, the production and use of high quality plant material in community seed banks and nurseries, and the use of climate-smart NRM systems and technologies by users and producer organizations ? will be implemented in four landscapes of Amoron?i Mania, Vatovavy, Fitovinany and Atsimo Atsinana regions to enhance ecosystem services, the sustainable intensification of agriculture (coffee agroforestry and rice/legume diversified systems) and NTFP production and marketing, and BD conservation, through effective CBNRM transfer. The project will also build on existing efforts by the GoM to identify sustainable public and private financing mechanisms for FLR investments ? under PES schemes - as core part of its business model. The project will promote business incubation programmes for the target producer organizations, and private-public-partnership (PPP) frameworks involving MEDD/MINAE public institutions, producer organizations from the target landscapes and end market players, with special focus to SFCC members.

(4) Invest in 360? continuous capacity development, knowledge generation and technical support. Innovative ILMP/FLR/ER/SLM/SFM/SVC approaches are very recent, and much work is needed to build the capacity of all practitioners (both public and private trainers/extensionists from the Govt, NGOs, research, private sector and lead farmers, and trainees including PA/forest/land managers, individual land users, NGOs, community-based organizations, producer organizations, cooperatives, SMEs and other private sector organizations) to acquire the necessary skills to demonstrate sustainable results in the implementation/upscaling of best practices and to coach them throughout a difficult process until land users consolidate the adoption of innovative systems and technologies in the long term. The project has adopted a ?continuous? learning-by-sharing-and-doing? training and coaching strategy that integrates knowhow on best practices from successful projects implemented in the target

areas, Madagascar and other FOLUR IP countries, with comparable socio-economic contexts and landscape degradation problems. The adaptation of innovation to the local context and the need to develop new protocols for the production/restoration/management/economic valuation of species about which there is still no knowledge, will require applying a participatory research approach linked to the field learning schools and SNRM interventions.

(5) Restore and sustainably managed multiple functions for multiple benefits: ILMP/PIA priority interventions aim to regain multiple ecological, social and economic functions across the target landscapes and generate a range of ecosystem goods and services that benefit multiple stakeholder groups, support the sustainable intensification (consistent with zero-deforestation, LDN and Bd conservation objectives) of shade coffee intercropping, diversified rice intercropping, and multipurpose forest fuelwood/NTFP production, and enable the development of ethic/green value chains for the targeted commodities.

(6) Effective monitoring, knowledge management and evaluation. The incremental finance will enable the harmonisation of M&E tools and approaches, effective knowledge management, alignment of ILMP, ecosystem services restoration, zero-deforestation agriculture production and ethic/green VC development efforts among FOLUR IP country projects, and the replication of evidence based best practices at decentralized, national and the international level through the AFR100 FLR platform, and Rice and Coffee Platforms.

The project?s incremental reasoning follows a two-pronged approach: (i) Add value to ongoing efforts towards the strengthening/expansion of landscape-level restoration of degraded areas and climate-smart agriculture and forest management supporting environmentally sound, socially beneficial, and economically viable VCs embedded in baseline initiatives; (ii) Enable conditions for sustainable investments in FLR priorities. Without GEF support, baseline interventions would lack the FLR landscape-level planning layer needed to identify landscape restoration hotspots and define FLR intervention priorities emphasizing the restoration of ecosystem services and the sustainable use and conservation of agroforestry and biological diversity, through climate-smart ER/SLM/SFM systems and technologies and VC development. This would increase the environmental and social risks potentially embedded in unsustainable rural development drivers, aggravating pressures on the country?s natural habitats and biodiversity. With GEF funding, the project will complement baseline interventions with: (i) additional resources and workable approaches for continuous training and coaching facilitating the effective use of ER/SLM/SFM investments by target users and producer organizations, to successfully restore degraded agriculture and forest land according to the national FLR and LDN targets, and for the long-term adoption and upscaling of climate-smart, zero-deforestation, diversified coffee agroforestry and rice/legume production systems; (ii) enforced policy framework and accompanying implementation guidelines and regulations on responsible tenure governance for SNRM, BD and genetic resources conservation, FLR planning and implementation, and

for creating an enabling environment for cooperative expansion and VC commodity trade; (iii) new and solid PPP agreements involving MEDD/MINAE, producer organizations and international end market players, with special focus on SFCC members; and finally (iv) fine-tuning locally-adapted technologies and management systems through landscape/country/international sharing of knowhow and collaboration.

The following table summarises the incremental/additional contribution of the GEF Project to the baseline investments:

Baseline Investment	Baseline Contribution	GEFTF incremental/additional Contribution
JICA/PAPRiz	? Objective: strengthen the rice value chain to achieve self-subsistence and build a base for future export. ? Strengthening the supply system for seeds, fertilizers, agricultural equipment / mechanization services, and post-harvest and marketing infrastructure and equipment. ? Strengthening the management capacity of farmers/farmer organizations. ? Setting up the extension system at national and regional levels.	? The rice VC development approach of the GEF project will be centred around sustainability in its three components - ecological, social and economic - with the main objective of achieving zero-deforestation and land degradation neutrality through the sustainable intensification of the rice production systems (tavy and tanety) that are the main causes of deforestation and land degradation. ? The project will enhance food and economic security through VC integration (e.g. tree-crop-livestock systems) and VC complementarity/crop diversification (e.g. crop rotation with off-seasonal legumes and other crops) as the best option for climate-adaptive livelihood diversification, environmental improvement (e.g. soil and water improvement provided by forest and agroforestry trees, livestock manure, and permanent vegetation cover), and BD conservation (value-addition of nature-based agriculture and forest products). ? Component 2 will support community-based seed banks for the production (and farmers? access) of climate-adapted rice/complementary crop species varieties, and will facilitate investments (matched with continuous training and coaching) for climate-smart production (e.g. SRI/SRA/CA equipment and tools, and efficient micro-pressurized irrigation), storing, processing and marketing equipment. ? The project will build on PAPRiz investments in production and post-harvesting infrastructures (e.g. water and marketing infrastructures) to support efficient water use and facilitate market access to the targeted producers and POs.

EU/RINDRA (will not provide co-financing)	? Objective to improve governance in agriculture, livestock, fishing and environmental sectors, as well as the productivity, profitability, and sustainability of agricultural value chains. ? Improvement of the legislative and regulatory frameworks of the sectors. ? Training support for ministerial staff. ? Support for coordination capacities among concerned ministries. ? Support for chambers of agriculture systems. ? Support for producer organizations and supportive services favoring a VC approach. ? Contribute to the financing of the Agriculture Development Fund (FDA) and its regional segments (FDAR).	? Project Component 1 will apply an integrated landscape planning approach for cross-sectoral policy harmonization, improvement, and formulation at national and sub-national levels. ? The project will enhance the capacity of the NFLRC as a key inter-ministerial and multi-stakeholder institution to facilitate cross-sectoral policy harmonization and integration at the landscape-level, based on a policy-influencing-plan and policy revision/formulation taskforce. ? Training on existing policy frameworks and policy formulation will occur at national, and subnational (landscape) level targeting all concerned public and private actors (with a strong focus on gender, youth and vulnerable groups), so that they become knowledgeable and can apply the existing policies that support the sustainable management of landscape resources and the ethical/green marketing of agriculture/forest commodities, and can formulate regulations (by-laws or dinas) that support the effective/integrated/coherent implementation of the priorities defined in the ILMP/PIA. ? Project Components 2 and 3 will support the strengthening/development of VC platforms at the landscape, regional and national levels, so that the VC participants, from local producers to end market buyers, improve their capacities, their access to resources and services, their commercial relations and their access to ethical/bio/specialty certification markets. ? The project will build on the financial strengthening of FDA/FDAR by RINDRA for the upscaling of the capacity development interventions of the GEF project (e.g. ToTs, FFS, FBS, FFBI supporting learning about sustainable production, post-harvesting, processing and marketing, SNRM, as well as organization and business development).

GIZ/Forest for Future (F4F)	? Improving governance in the forestry sector and in the development and sustainable management of landscapes and forests by aiming for the development/updating of 5 planning documents. ? The restoration of the ecological and productive functions of degraded forest landscapes by targeting 1600 ha. ? The improvement of the incomes of the local population adopting the FLR measures (1,700 targeted households) thanks to the professionalization of 5 value chains, for the benefit of 1,700 households, 12 incubators and small-medium enterprises (SMEs).	? The GEF project will help upscale existing best practices on ILMP in Madagascar and demonstrate workable solutions to effectively apply the FLR principles for the participatory/inclusive planning, implementation, and monitoring of FLR priorities at the landscape level. ? The ILMP participatory planning methodology and institutionalization developed by the GEF will help guide GIZ/other partners? FLR interventions in the target regions and in Madagascar as a whole. ? Components 2 and 3 will support the development of new plant production protocols for a wide range of native species and innovative soil and water conservation planting techniques that will be available for GIZ/other partners? forest restoration interventions. ? Sustainable forest VC development interventions and VC platforms/certified marketing around selected commodities (e.g. green charcoal, honey, wild silk, basketry, ecotourism) under Component 3 will feed on F4F best practices and help upscale effective solutions for sustainable livelihood improvement of forest users in the target regions compatible with BD and forest conservation.
WB/ETIGP	? Supporting SMEs and entrepreneurship recovery from the COVID-19 crisis and growth in target sectors and target regions. ? Invest in infrastructures, including small works in roads, water and electricity.	? The GEF project will build on the WB approach to facilitate SME recover from COVID-19 crisis, while developing and sharing with WB/other partners its diversification strategy (diversification of crops and varieties that increase the food and economic security of vulnerable populations in periods of pandemic and CC crisis; diversification of species used in the restoration of forests to increase their climate resilience ; etc). ? The project will build on ETIGP investments in infrastructures to support efficient water use and facilitate market access to the targeted producers and POs.

WB/ARSEFNS & Riz Plus	? Upgrading of the quality and performance of irrigation infrastructure and services. ? Increase in productivity and environmental sustainability of rice systems and enhancement of farmer access and connectivity to good/services markets (i.e., inputs, output). ? Strengthening of the enabling environment for private sector-led growth of the rice sub-sector.	? The rice VC development approach of the GEF project will be centred around sustainability in its three components - ecological, social and economic - with the main objective of achieving zero-deforestation and land degradation neutrality through the sustainable intensification of the rice production systems (tavy and tanety) that are the main causes of deforestation and land degradation. ? The project will enhance food and economic security through VC integration (e.g. tree-crop-livestock systems) and VC complementarity/crop diversification (e.g. crop rotation with off-seasonal legumes and other crops) as the best option for climate-adaptive livelihood diversification, environmental improvement (e.g. soil and water improvement provided by forest and agroforestry trees, livestock manure, and permanent vegetation cover), and BD conservation (value-addition of nature-based agriculture and forest products). ? Component 2 will support community-based seed banks for the production (and farmers? access) of climate-adapted rice/complementary crop species varieties, and will facilitate investments (matched with continuous training and coaching) for climate-smart production (e.g. SRI/SRA/CA equipment and tools, and efficient micro-pressurized irrigation), storing, processing and marketing equipment. ? The project will build on WB investments in irrigation infrastructure, road rehabilitation and other services to support efficient water use and facilitate market access to the targeted producers and POs. In addition, the GEF project will capitalize on the insitutional support provided by the WB in developing the rice sector and providing rural development by adding a ?deforestation-free? focus.

FAPBM	? Support for the management of the Massif D'Ibity. ? Support for the management of Ranomafana National Park. ? Support for the management of the Manombo Reserve.	? The GEF project will support the improvement and/or development of new COBA contracts and RAG land titles for the sustainable management of fuelwood and NTFP goods and services (e.g. honey, wild silk in M. Ibity, basketry, ecotorurism) in the protected areas benefiting FAPBM support. ? The ILMP/PIA plans will help define ER/SLM/SFM/SVC priorities in/around the targeted protected areas and harmonized regulations (by-laws or dinas) to avoid conflicts among users and guiding the coherent and integrated implementation of ER/SLM/SFM. ? COBA/RAG members with NRM transfer contracts and land titles in the protected areas targeted by FAPBM will benefit from investments around ER, SFM and VC business, matched with continuous training and coaching.
MBG	? Conservation Offset of Agnalazaha PA. ? Green fences preventing free livestock movements and protecting crops and restored forests while improving livelihoods. ? Defining sustainable use of native tree stems for fencing poles at Agnalazaha forest. ? Restoring rare tree species populations in three MBG-managed new protected areas in the target regions. ? Extending and improving the integrity of protected forests.	? The GEF project will help upscale MBG best practices on PA management and BD conservation (special focus on the protection and restoration of rare tree species populations, such as the dominant tree species (Uapaca bojeri) in the tapia woodlands on which wild silk production depends). ? The GEF project will build on MBG (and its local NGO partners Ny Tanintsika and Feedback Madagascar) experience supporting VC development and women cooperatives around NTFPs, and will enhance the entrepreneurship of the targeted COBA/RAG to become profitable environmentally sound and social-responsible SME/cooperatives operating in the fair-trade/organic certification market segments. ? Components 2 and 3 will build on MBG knowhow on the nursery production of seedlings from wild species and support the development of new plant production protocols for a wide range of native species and innovative soil and water conservation planting techniques that will be available for MBG/other partners? forest restoration interventions.
MEDD	As lead national executing agency for this Project, MEDD will make availble in-kind resources from its decentralized administrations and ministerial departments.	Regional budget allocations from decentralized administrations include: Budget allocations from the Regional Directorate (DREDD) Amoron'i Mania; DREDD Vatovavy and Fitovinany and DREDD Atsimo Atsinanana.

MINAE	As partner executing agency for this Project, MINAE will make available budget allocations from its decentralized administrations	Regional budget allocations from decentralized administrations include: budget allocations from the Direction R?gionale (DRAE) Amoron'i Mania, DRAE Vatovavy et Fitovinany and DRAE Atsimo Atsinanana.
FAO	The FAO has several ongoing projects that will be contributing with important lessons learnt and knowledge platforms.	Through the regional programme ?Establishment of an information system network on agriculture and food and nutrition security in the Indian Ocean islands (Comoros, Madagascar, Mauritius, Seychelles)?, online platforms on food and nutrition security will be established at national level, this will facilitate regional integration and decision-making on the prioritization of actions relating to food and nutrition security both at country and at regional level. GEF investments will build on this infromation network adding to it a systems approach that looks also into environmental aspects. The Forest and Landscape Restoration Mechanism (FLRM) of FAO is also supporting several projects on the continent as well as regional and global initiative the project will benefit from. It is part of the leading team of the FAO work under the UN Decade for Restoration, with a particular focus on knowledge management and capacity building as well as monitoring. These themes are particularly relevant for this project that will benefits for all the UN Decade activities and dedicated Technical Assistance on topics such as Integrated Land Management, Farmer Field Schools for FLR, FLR management etc.

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

Table. Global Environment Benefits (GEBs)

GEF 7 FOLU IP Core Indicator Targets	**Expected contribution of the GEFTF**	**Calculation**

42 million ha of landscapes under improved practices	86,274 ha of landscape areas (PIAs) under improved practices: ? 20,000 ha under improved diversified rice/legume production system. ? 5,000 ha under improved shadow coffee intercropping system. ? 3,274 ha of natural forests under avoided deforestation, and ? 58,000 of healthy agroforestry land with avoided tree cutting and system conservation	Hectares of rice under sustainable intensification production: the project supports sustainable intensification in the rice agriculture areas under moderate to significant decline productivity so that increased productivity and crop diversification prevent new deforestation caused by rice production. The calculation of the hectares has been made considering the total rice crops in the target landscapes (46,265 ha, representing 7% of total cropland) and the percentage of cropland with moderate to significant decline productivity relative to rice crops (approx. 20,000 ha). Hectares of shadow coffee intercropping restoration: average USD 310/ha of project contribution to restore and/or establish shade-tree coffee intercropping production systems. Avoided deforestation & tree cutting: The calculation of avoided deforestation is based on Hansen, et al. 2013. Based on a projected 5 years continue deforestation and assume a 17% of deforestation is due to agricultural expansion, if the project avoids a 17% of area deforestation would equal 3,273.37 ha, and 58,000 ha of agroforestry tree

2.3 million ha of land restored.	? 5,000 ha of natural forests restored. ? 5,000 ha of agro-forestry farmland restored.	? Average investment costs of USD 100/ha, with in-kind contribution from beneficiaries in terms of labour.
1.2 million ha of terrestrial protected areas under improved management		
290 million tCO2e of GHG emissions mitigated	4,968,459 metric tons CO2e	Project design has used FAO EXAct to calculate tCO2e of GHG emssions mitigated. The carbon-balance of this project amounts to -4,968,459 tCO2e for a total period of 20 years (5 years of implementation and 15 years of capitalization) and for a total area of intervention of 96,274 ha, or -2.6 tCO2e per hectare per year. The table below summarizes the assumptions of the carbon-balance appraisal.

Table. EX-ACT calculation of GHG emssions mitigated

EX-ACT Module	Start	Without Project	With Project	Hectares	Comments
2.LUC (avoided deforestation)	Tropical rainforest	Degraded land	Forest	656	Avoided deforestation thanks to the work done in C#2/C#3
2.LUC (avoided deforestation)	Planted tropical deciduous forest	Annual cropland	Forest	2,618	Avoided deforestation thanks to the work done in C#2/C#3
2.LUC (afforestation)	Agroforestry	Agroforestry	Forest	5,000	Under C#3 the afforestation/ reforestation in partnership with mining companies
2. LUC (other LUC)	Annual Fallow	Annual Fallow	Agroforestry	5,000	Under component 2, improve agroforestry
3. Cropland	Annual cropland remains cropland		SRI/legume intercropping	20,000	C#2 Improved agronomic practices
	Perennial system	Perennial system	Improved coffee agroforestry	5,000	C#2 Improved agronomic practices
3. Cropland	Perennial fallow	Perennial fallow	Zero-deforestation	58,000	Avoided deforestation thanks to the work done in C#1C#2/C#3
TOTAL (ha)				**96,274**	

(vii) Innovativeness, sustainability, potential for scaling up and capacity development[1]

The adaptation of innovative systems and technologies to the local agroecological and socio-economic context through *learning-by-doing* methods, that involve applied participatory (communities, practitioners, technical experts/researchers) research/monitoring routines and exchanges, to develop effective sustainable production and management protocols, and through the local production of affordable (cost-benefit) equipment and materials adapted to the local context), is a key component to achieving the expected transformative impact of the project. This engagement will be a two-way street where the FOLUR Global Platform facilitates the child project to benefit from global level dialogue and action (reflected in output 4.1.1), and the Madagascar CP shares a context and knowledge

management tools available to IP members and other global platforms on best practices in the IMP of landscapes with sustainable coffee and rice production systems integrated in a forest context with zero deforestation and conserved biodiversity. Models, tools and approaches developed in Madagascar - the country with the largest reservoir of coffee genetic diversity in the world and the greatest potential to help the sector face CC - for productive landscapes integrating sustainably intensified coffee agroforestry, diversified rice/legume systems and biodiversity-reach forests, will be shared globally and particularly with leading and emerging coffee producing countries in East and Central Africa.

Innovativeness

According to a World Bank paper on gender equality and development[2] innovation is defined as ?the process by which individuals or organizations master and implement the design and production of goods and services that are new to them, irrespective of whether they are new to their competitors, their country, or the world?. Following this line of thinking, the project is innovative in terms of:

1) the integration of supported measures: diversification with productions complementary to coffee and rice that solve liquidity and food security problems at critical times and thus allow producers to meet the labor demand of the proposed intensification systems. The increase, improvement in quality and diversification of production allows to cover the needs of family members, avoiding having to deforest more land to increase the cultivation area or obtain income through the cutting and sale of wood, as well as emigrate. to other areas where they undertake often illegal actions of felling for wood and putting it into cultivation.

2) common rules of the game for all the actors and uses of the landscape: participatory planning approved by all the actors involved in landscape units allows tradeoffs to be resolved between uses and users with differentiated interests, and to establish regulations and governance mechanisms that avoid conflicts and subsequent abandonment of the good practices adopted. In order to be effective, the participatory landscape planning must be inclusive and accessible to all users, including vulnerable groups such as migrants without historical customary rights, and should effectively address tenure and NRM rights facilitated by permanent or temporary land titles or NRM contracts open to all concerned users. This entails the improvement of mechanisms (accompanying implementation guidelines) for the application of existing policies on this subject, and the participatory establishment of by-laws for the sustainable management of natural resources in the landscape that are cross-compliant with the needs of the different uses and actors. Likewise, inclusion requires identification and contact with all stakeholders, with special attention to remote areas, respecting traditional community authorities and norms, and with the development of awareness-raising, information and training instruments sensitive to cultures, gender and literacy level, to prevent the creation of barriers to real inclusion.

3) the local adaptation of innovation: There are already innovative systems and protocols for the production of high-quality plants, for the preparation of land for effective forest plantations, for improved agricultural production adapted to climate change (eg CA/SRI/SRA), for the production of bioenergy and compost, and/or for the collection, storage and transformation of agricultural and forestry products. However, in most cases this knowledge must be adapted to local conditions (geomorphological, bioclimatic, agroecological and socioeconomic) and to the specific species diversity of the country, region or landscape (need for specific protocols that still do not exist for the production of high-quality, climate-adapted plant material). The project will help adapt innovation to the local context through participatory applied research in which communities, practitioners and experts jointly apply new protocols, validate and upscale them, and help develop equipment and green infrastructures adapted to the local context and with a cost-benefit approach. An important element of innovation is the project's strategy of providing continuous support (throughout the various stages of each intervention and throughout all the years of the project) combining training, implementation and research, which is often absent in this type of projects.

3) the process to follow: Although the processes and steps to effectively develop conservation and sustainable development projects are known, the reality is that they are rarely implemented following the logic of interdependence between each step that allows the achievement of the next, which results in poor results and little appropriation of the same by the beneficiaries and partners. This means that ensuring mechanisms for the logical and integrated development of the process steps has an aspect of innovation in itself.

The project proposes a step-wise approach, through which it is ensured that the necessary conditions for each action have been previously ensured.

i) start by ensuring that all the actors involved have the same knowledge about the government objectives and instruments (policies, strategies, guidelines, etc.) for the target areas in terms of FLR, LDN, BD conservation and nature protection, responsible/participatory governance of land and NRM, CC adaptation/mitigation, improvement of agricultural-forestry production and local livelihoods/food security, and the development of a green economy. To do this, the project must produce materials and tools and carry out awareness-raising, information and training actions adapted to the different cultural groups, gender and literacy level. Specifically, and to avoid barriers that limit access to the illiterate population, the project must include a minimum of literacy in its training activities.

ii) Once there is a common understanding between the actors involved, the project will explain the rules of the game in terms of integrated landscape planning, and will help to carry out consensual participatory plans, defining sectoral priorities (in terms of prioritizing areas and types of intervention of agricultural and pastoral production, forestry production, protection of biodiversity, water

management, energy management, etc.), the interrelation between them, and the landscape regulations that allow an effective implementation.

iii) Once there is a common understanding between the actors involved and an agreed integrated landscape action framework, the project will ensure the high qualification of a sufficient pool of public and private extension providers with access/presence throughout the landscape to provide continuous training and coaching to the agriculture and forest users in the complex process to grasp/visualize the socio-economic benefits and effectively adopt innovative practices for the restoration of ecosystem services, the improvement of VCs (production, storage, processing and marketing), and the sustainable management and higher availability of resources such as water and energy. Continuous training will be carried out through practical applications/demonstrations of selected C-smart systems and technologies in the field involving different producers, and with a business development orientation that promotes associationism among the participants. During the training process, the project will make available the green infrastructures, equipment, materials and inputs necessary for the groups of producers trained to apply the knowledge acquired on their own/managed farm and forest lands.

iv) Once there is a common understanding between the actors involved, an agreed integrated landscape action framework, and the necessary knowhow to undertake a gradual process of effective adoption of innovative systems and technologies, the project will strengthen the entrepreneurial capacity and access to new ethical/green markets for farmers and organized forest users through the promotion of multistakeholder VC platforms?which include learning alliances fostering innovation? involving public-private partnerships with the direct support from the Slow Food Coffee Coalition members (including inclusive agribusiness contracts between supported POs and SFCC fair trade/bio/specialty coffee? buyer companies), that are key in addressing the complex problems and challenges of trade-offs between environmental, social and economic sustainability. The project will also help overcome barriers and upscale lessons learned from other long-term sustainable financing mechanisms such as the economic incentives derived from novel intersectoral and natural resource governance policies supported by Component 1, and the payments for ecosystem services (e.g. propose innovative approaches to overcome the barriers faced by the CI supported REDD+ PES-like financing schemes in COFAV, especially about tenure rights, lack of inclusiveness of users without customary rights) to compensate the users of the territory for the reduction of their impacts and benefits during the gradual transformation towards sustainable food production in resilient landscapes (Component 3). Through the sustainable financing tools piloted under Component 3, the project will be highly innovative in its effort to: (i) create a more conducive financial framework for the implementation of the FLR Strategy in Madagascar; (ii) catalyse private sector engagement with the development of private-public partnerships for the reinforcement of the targeted VCs; (iii) empower the local communities in the landscape with the setup of PES schemes that compensate community efforts to sustainably manage NR and conserve biodiversity.

Innovativeness constraints

Although SLM systems and technologies have been successfully applied in the country, there are several barriers preventing farmers? adoption or causing SLM disadoption with the consequent scant diffusion of such technologies in the country. Indeed, in cases such as SRI or CA, technology innovation is not necessary, but it is necessary to innovate in its adaptation and transfer to the local socio-economic context. The project will propose an innovative method that will jointly apply a series of measures (e.g. continuous training over several years and through a ToT and FFS/FBS/FFBI extension system; enhanced education to facilitate access to information on available resources and regulations; diversification of production systems to solve problems of seasonal liquidity and environmental risks; etc), all of them complementary and necessary to ensure the permanent adoption of SLM systems.

In the case of ER and SFM, technology innovation is a must since the great potential of most native plant species to restore ecosystems, and to obtain high value wood (fast growing plantations) and non-timber resources is unknown. The project will build on the existing nodes of excellence on ER and SFM (e.g. OmniVerdi and FOFIFA) to do applied research in community-based nursery production of a wide number of native plant species and in the planting methods to be used under different environmental conditions. This approach will build knowhow and help develop ad-hoc protocols, to be replicated and/or adapted to other socio-ecological contexts in the country.

The private sector will be an important catalyst for scaling up and technology transfer both within and outside Madagascar boundaries. The project will partner strategically with the SFCC - one of the main drivers of the fair trade/bio/specialty coffee growing market ?which represents a large number of companies. SFCC aims to create connections and improve the relationship between producers and consumers, empowering farmers by increasing their visibility and promoting the identity and the knowledge of coffee. Project design has discussed and agreed with SFCC about its participation in the project implementation, which will play an innovative role in facilitating inclusive agribusiness agreements between SFCC members and coffee POs in the target landscapes, create conditions for VC platform innovation around green/fair trade and specialty coffee production and crop diversification, and opportunities for transfer of knowledge and lessons learned across the industry. This will be a major contribution to the Global Folur project, which will help reinforce the innovative aspects of coffee VC among member countries

The project will identify gender constraints and needs to overcome barriers for the effective participation and engagement of women in the selection, testing and fine-tuning of ER/SLM/SFM/VC innovative systems and technologies. The project will build on the specificities of women farmers and forest users as innovators by supporting fair representation of women in the FFS, FBS and FFBI learning schools, to support women groups? own experimentations. Capacity development activities will address the social and cultural barriers limiting women?s access to innovation in natural resources management and agrobusiness, through gender-specific information, education, extension and training, to increase the number of women leaders in the landscapes? institutions, CBNRM organizations and

extension services, and catalyse women?s participation in producer organizations, and their equitable access to land, natural resources, technologies and finance. In this sense, the project will build on the Gender Action Learning System (GALS) community empowerment methodology that uses the principles of gender inclusion to improve the incomes, as well as the food and nutritional security of vulnerable people while respecting gender equity, that was piloted by IFAD under FORMAPROD and expanded under DEFIS in all the four target regions (Amoron?i Mania, Fitovinany, Vatovavy and Atsimo Atsinana).

Potential for Scaling-Up

The up-scaling potential of the project activities and results is high, given its complementarity with national policies, plans, and programmes, the strong commitment of MEDD to integrate project results into its long-term National FLR Strategy, and the broad range of partnerships triggered by the project, including all representatives of the national society (institutions, communities, civil society, private sector).

The project approach of developing ILMP/PIA plans for high eco-cultural value landscapes and strictly following the global FLR and IWM principles and methodologies already tested in the country (e.g. FAO FLR Mechanism, PADAP[3] project) should lead to an effective landscape planning model that effectively prioritize ecosystem restoration and management interventions supporting cross-sectoral sustainable development opportunities throughout the landscape, and responding to the BD conservation and livelihood needs. ILMP/PIA plans will facilitate decision-making and negotiation over possible trade-offs between BD conservation and development objectives, and among different stakeholders? interests and needs. Moreover, ILMP/PIA plans will include ER/SLM/SFM/SVC guidelines, protocols and regulations that that should guide and harmonize community-based management transfer contracts (COBAs) and temporary land titles (RAGs), their plans and bylaws. The ILMP landscape planning model developed by the project should be broadly replicable in the target regions and the rest of the country.

The ER, SLM and SFM priorities identified in the ILMP/PIA plans will respond to the environmental and socio-economic context of the target landscapes through the participatory locally-adaptation of innovation (e.g. new plant/seed production protocols for a wide range of native plant species and crop varieties) and knowledge transfer system (continuous awareness raising, education and extension system responding to the cultural, gender and vulnerable groups? inclusion needs) with high up-scaling potential. The actions for economic diversification through SVC and inclusive agribusiness PPPs also have a high up-scaling potential, as they address critical problems of agriculture and forest producer organizations that are widely felt in Madagascar, and captured by National policy strategies (e.g.

NFLRS, National REDD+ Strategy, INDC, GELOSE/GCF, LDN National Targets, SNABE, DWIP policy, NBSAP) addressing land degradation and deforestation, unsustainable use of forest fuelwood, the impact of maladaptive farming practices, and the weak economic opportunities linked to the agro-forestry sector.

Scaling up will also be facilitated by knowledge management and dissemination of best practices. The main project partners and government counterparts, MEDD and MINAE, building on the improved enabling framework and techniques/practices implemented through the project, will lead the scaling up throughout the country, according to their institutional mandate. In addition, the FOLUR Global Platform (and other global platforms) will enable the child project to benefit from global level dialogue, know-how sharing and action around lessons learned produced by Madagascar CP and the other FOLUR countries with similar characteristics and problems.

Sustainability

It is expected that by the end of the project, public institutions, local communities, producer organizations, CBOs, NGOs, private enterprises, research centres and other stakeholders will be able to give continuity to the activities undertaken by the project. The project will follow a diversification strategy to help overcome the identified barriers and ensure long-terms sustainability.

Barrier	Diversification strategy
1-Weak responsible tenure governance mechanism	? ILMP plans help prioritize ecological restoration and sustainable NRM interventions to enhance the diversity of natural habitats and species that provide the many goods and services on which sectoral land uses and people?s livelihoods depend. ? Participatory ILMP planning engage the diverse set of stakeholders? interests and needs and provide a visioning framework that help understand the multiple landscape benefits and negotiate trade-offs between various development and BD conservation interests.

2-Limited resources and institutional & technical capacity	? A pluralistic (diversified) knowledge generation and capacity development system creates a critical mass of public and private multi-sectoral extensionists within the landscape, that help overcome current disinformation between central and decentralized administrations, vulnerable people isolation, and insufficient public extension means. ? Applied research in community-based ER/SLM/SFM interventions help gain knowledge on the multipurpose values provided by the diverse set of native plant species and crop varieties and develop ad-hoc protocols (innovation) supporting ecological restoration and SNRM.
3-Limited adoption & high-disadoption of SLM/SFM	? The critical mass of public and private extensionists (diversified knowledge generation and capacity development system) will allow the implementation of a multi-year continuous training and extension support to forest and farm producers, needed to consolidate the adoption of innovative SLM/SFM systems and technologies. ? Sustainable intensification through diversified production systems (e.g. tree-crop-livestock, shade coffee intercropping and diversified rice/legume CA/SRI/SRA rotation system, multipurpose use of wood and NTFP forest products) help vulnerable farmers acquire liquidity during labour intensive production seasons and higher resilience against climate risks. ? ILMP landscape plans and multi-sectoral regulations or by-laws facilitate cross-compliance among diverse land uses (e.g. tree-crop-livestock integration) and by-law enforcement.
4-Poorly developed markets and weak VC	? Income diversification based on complementary VC commodities (e.g. local enterprises or cooperatives producing and marketing both (i) NTFP and wood; (ii) rice and offseason edible and fodder legumes and livestock; (iii) coffee, fruit tree, vegetables and livestock) provides higher environmental and CC adaptation benefits, food and economic security. ? Product diversification through the production of wide set of crop varieties, storage, processing and complementary sub-products (e.g. honey, pollen, royal jelly and propolis) provides higher environmental and CC adaptation benefits, food and economic security.
5-Insufficient public & private financing	? The project strategy to ensure long-term financing for ILMP/PIA implementation is based on a diversified financing strategy, including PPP mechanisms (e.g. governmental funds, private foundations, inclusive agribusiness contracts, PES, among others).

Factors that encourage sustainability in its social, environmental, economic, and capacity-building dimensions are listed below:

Social Sustainability and Gender Equality

In the context of the project development phase, the design team carried out field assessments that included a social and gender analysis, in order to make the proposed project interventions more people-centred and socially inclusive to safeguard the interests of the weaker sections of the population, including women. A key challenge to social sustainability in ILMP projects is the development of the communities? capacities ? with special focus on vulnerable population groups - to access land and natural resources in an inclusive, equitable and sustainable way and to take active action in the implementation of ILMP. This challenge will be addressed by ensuring that all participation is voluntary and inclusive of the most vulnerable groups (e.g. direct forest users without historical customary rights such as migrants), that all user groups especially women are represented in the design of the ILMP/PIA plans and in the actions to promote ER, SLM, SFM, SVC learning and investments, that women entrepreneurs and institutions with a balanced gender component are involved in the green vale chains and economic diversification, and that the capacity development work of the project targets a balanced and equitable share of social groups, with a special focus on women and youth.

The project will intentionally promote gender equality. Women will be fairly represented in the participatory processes to design FLR landscape plans ? thus they will have their say over FLR landscape priorities, and they will be in the position to defend their interests through the governance systems put in place. Criteria will be developed to make sure that women have equitable access to the equipment and inputs channelled through the procurement windows, and all the capacity development programmes delivered will ensure that half of the participants are women. Gender and social equitability criteria will also be paramount in the strengthening of producers? associations and in the development of GVC and financial opportunities under Component 3 of the project.

Environmental Sustainability

The project promotes suitable systems and technologies for ER, SLM and SFM, based on the already successfully tested in the country, and on the priority intervention types defined in the National policies and strategies. The project aims to demonstrate how integrated restoration and management of forests and farmland in the target landscapes can be applied to avoid further deforestation and enhance the essential ecosystem services, and how the sustainable production of commodities could enhance the capacity of producer organizations to participate in solid inclusive agribusinesses contracts with buyer companies operating in the growing and more stable fair trade/bio/specialty coffee market segment. The project will be implemented in areas under severe threat of degradation and highly vulnerable to the impacts of CC. Pressures on the forests and farmlands will be reduced by improving the efficient and multipurpose use of forest resources ? including the valuing and sustainable harvesting of wood, NTFP, and the provision of alternatives to unsustainable fuelwood collection and charcoal ? and the sustainable intensification of diversified agro-forestry production systems making use of climate-

adaptive crop species and varieties. This coupled with ecological restoration interventions will allow the restoration of habitats? connectivity and the conservation and management of species genetic resources (e.g. wild *Coffea* species and wild silk-related *Uapaca* species, among others) in the protected and non-protected vegetation cover. Environmental sustainability will also be enhanced by the project?s emphasis on integrating resiliency planning into all ILMP investments, through climate-smart interventions, and climate-adaptive production and planting techniques for native forest species and crop varieties.

Economic and Financial Sustainability

The financial and economic sustainability of the project will be achieved to the extent that these activities are financially and economically viable for the parties involved, including farm and forest producer groups at the landscape levels, and the private sector operating in the coffee, rice and other complementary VCs. The restoration and sustainable management of productive forests and farmland will increase goods and services and improve the economic activities that depend on their functionality. Income diversification based on complementary VC commodities (e.g. local enterprises or cooperatives producing and marketing both (i) NTFP and wood; (ii) rice and offseason edible and fodder legumes, livestock; (iii) coffee fruit tree, legumes and livestock) will provide higher benefits, economic security and liquidity for vulnerable farmers that will be less exposed to environmental and CC risks. Product diversification through the production of wide set of crop varieties, storage, processing and complementary sub-products (e.g. honey, pollen, royal jelly and propolis) will also provide higher economic benefits and security with lower exposure to environmental and CC risks. Economic sustainability will also be ensured through the increase and multipurpose use of forest wood and non-wood products upon which livelihoods of poor community groups rely.

Sustainability of Capacities Developed

Sustainability will be enhanced by the project?s capacity building efforts and support for key institutions (e.g. COBAs, RAGs, protected area managers, public and private extensionists, decentralized administration, NGOs, producer organizations and federations, VC platforms, private enterprises) who will be responsible for carrying on the project work beyond project closure. The empowerment of the LPs, the VC platforms, NFLRC members, and regional, district and municipality forest and agriculture department will be instrumental at this respect, as the mainstreaming of ILMP priorities within institutions and decentralized development plans will facilitate their long-term adoption and implementation, that is the key challenge to sustainability. The involvement of the producers? organizations and the buyers? companies through the working line on business and value chain development and inclusive agribusinesses PPP will also contribute to sustainability.

Capacity Development

The project formulation phase highlighted several capacity gaps at both individual and organizational levels, especially related to the nature, scope and complexity of the ILMP planning and ER/SLM/SFM/SVC implementation tools. This lack of capacity is mainly due to: (i) the fact that no previous projects/initiatives have dealt with the interlinkages between impacts and complementarities among development sectors in a comprehensive way in the target landscapes; (ii) the fact that the country has a very limited number of extension human resources ?at the Regional, District and municipal level ? and little knowledge of FLR-related tools, that prevent the circulation of lessons learned and good practices to practitioners. The formulation team also identified gaps for the establishment of an enabling environment to the implementation of ILMP sectoral priorities, including the (i) lack of cross-sectoral coordination and cross-compliance; (ii) lack of implementation and weak enforcement of existing policies developed without accompanying implementation frameworks; (iii) insufficient and inadequate financing instruments often supporting maladaptive natural resources management practices. All these gaps will be tackled through the capacity development work that is strongly embedded across the work plan of the project.

At the beginning of the project, the capacity gaps and needs of all stakeholders belonging to institutional, private, civil society, and community sectors will be mapped, based on the information previously gathered during the formulation phase, but also through the use of the FAO SHARP[4] Tool, which will implement a capacity assessment of all concerned stakeholders in the target landscapes across the three CD dimensions ? individual, organizational and enabling environment. The assessment will inform and guide the fine tuning of the capacity development actions throughout the four project components that will include a mix of tools ? the ToT; the establishment and running of farm and forest learning groups; training on ILMP planning; training and demonstrations on policy formulation and advocacy work.

Under Component 1 the project will enhance capacity for ILMP planning and policy improvement (e.g. accompanying measures and guidelines to facilitate the effective application of the various decrees and regulations; policy briefs and guidelines for mainstreaming ILMP priorities into sectoral policies), using the NFLRC as a forum to guide the policy improvement, as well as the communication, advocacy and capacity development interventions to disseminate project results. At the sub-national level, Component 1 will provide substantial support to institutions, local communities, civil society, and the private sector, to learn about existing policies and regulations supporting ER/SLM/SFM/SVC, formulate bylaws for the effective implementation of the ILMP/PIA priorities, develop/improve COBA/RAG land title and management contracts and bylaws, and advocate for policy improvement. The project will follow an iterative process through which lessons learned from ER, SLM, SFM, SVC

development in the target landscapes will feed policy improvement and facilitate the formulation of bylaws cross-compliant with the ILMP/PIA plans.

Sustainability: the improved capacities at national and local levels in terms of knowhow about ILMP planning methodologies and tools, about the contents of exisiting, relevant sectoral policies and their transposition at sub-national level, and about policy revision/formulation (national, sub-national and local community/COBA/RAG by-laws or dinas) and development of accompanying measures to facilitate practitioners in the effectively implementation of NRM regulations, will represent a long-term investment so that national and landscape-level public (e.g. policy-makers, extension service providers, PA, forest and agriculture managers and researchers) and private actors (e.g. single land users, producer organizations, local associations, NGOs, CBOs, local enterprises) will be empowered with the knowledge and means to participate effectively in landscape planning processes (project ILMPs, and post-project, during/post-life reviews of local, inter-municipal, landscape and regional plans), in reviews and formulation of local policies and regulations (by-laws ordinances).

Under Component 2, the project will implement an intensive training of trainer's system to create a critical mass of women and men trainers and facilitators among public and private institutions and individuals (e.g. decentralized agriculture and forest services at the regional, district and municipal level, lead farmers, private buyer companies, SOA network members, COBA/RAG members, farm and forest producer organizations/cooperatives/SME, researchers, CBOs and NGOs), to facilitate the organization and implementation of FFS/FBS/FFBI learnings addressing technical, institutional development and business matters. This will be the main vehicle for practitioners to learn-by-doing how to adapt and effectively apply ecological restoration interventions (e.g. community-nurseries for the production of high quality plant material; effective field restoration interventions to increase water availability and seedling survival), effective water management and harvesting technologies (e.g. water harvesting tanks and reservoirs; green infrastructures to increase soil water regulation and storage; efficient water irrigation infrastructure and equipment), climate-resilient agronomic systems and technologies (e.g. community seed banks for the production of seeds from climate adapted crop species and varieties; CA/OA applied to shade coffee intercropping; CA/SRI/SRA applied to diversified rice/legume/livestock systems), adaptive management of forest resources (e.g. economic valuation, harvesting and processing techniques for bee products, wild silk, basketry and other NTFPs with ecotourism interest; bioenergy alternatives and efficient use of fuelwood), and to develop green business around the targeted VC commodities. Capacity development will be very practical, tailor made to the gender, cultural and social profile of the beneficiaries, focused on the interventions to be developed, and delivered to the communities in the villages of the target landscape.

Sustainability: the improved capacities of PO members and public/private extension providers at regional and landscape levels in terms of knowhow about SLM for coffee, rice and complementary crops?s production, processing and organic/fair-trade marketing, will represent a long-term investment

so that all concerned actors will be empowered with the knowledge and means to participate effectively in VC platforms and inclusive agribusiness commercial agreements under PPP involving domestic and international buyer companies. The critical mass of public and private extension provides present in the target landscapes and with access to remote communities represents a long-term investment for the provision of FFS/FBS training and continuous technical support beyond the project?s life. Long-term agreements among coffee producers and international buyers (mainly members of the SFCC) will provide long-term economic sustainability to the project?s supported POs, who will be able to ensure a continuous production of high-quality organic products, thanks to the contract farming agreements with international buyers who are committed (within the framework of contracts) to guide POs with monitoring, technical assistance and training.

Under Component 3, the project will engage international experts on FLR financing and key stakeholders (e.g. public institutions, local communities, COBAs/RAGs, producer organizations, private sector, financial sector) to develop a pathway and a capacity development process to achieve a more conductive environment for ILMP finance (e.g. effective PES schemes, ILMP mainstreaming into public incentives and private foundations, PPP).

Sustainability: the improved capacities of COBA/RAG members, PA staff, forest managers and public/private extension providers at regional and landscape levels in terms of knowhow about ecological restoration and conservation of natural forest habitats and wild coffee species/Uapaca bojeri populations, SFM, and wood/NTFP production, efficient use, processing and organic/fair-trade marketing, will represent a long-term investment so that all concerned actors will be empowered with the knowledge and means to participate effectively in VC platforms and inclusive agribusiness commercial agreements under PPP involving domestic and international buyer companies. The critical mass of public and private extension provides present in the target landscapes and with access to remote communities represents a long-term investment for the provision of FFBI training and continuous technical support beyond the project?s life. Long-term agreements among COBA/RAG and national/international buyers will provide long-term economic sustainability to the project?s supported community-based organizations and cooperatives, who will be able to ensure a continuous production of high-quality organic products.

Under Component 4 the Child project members and partners will be supported to participate regularly in private sector coffee and rice roundtable meetings (e.g. CARD and CARI for rice VC actors; SFCC, ICO, IAC, Global Coffee Platform, World Coffee Forum, for coffee VC actors) sponsoring knowledge products on sustainable food and commodity production systems and conservation and restoration activities, providing technical assistance, designing financial innovations and interacting with networks of business, government and civil society gathered in these pre-existing coalitions. This will result in long-term formal and informal membership of the beneficiaries and partners of the Child Project in international platforms and permanent relationships with other actors of the target commodities from

the countries participating in Global Folur, to exchange knowledge, strengthen their positions in lobby and advocacy actions, and share market opportunities.

(ii) Summary of changes in alignment with the project design with the original PIF

These are the main changes that have occurred with respect to the PIF:

Modification of target regions: The project team has carried out a very detailed analysis of the context of the target raw materials on the ground, with numerous workshops and consultations with key informants from actors and partners active in those production systems. As a result, the project has:

1) reduced the target regions from 5 to 4: the Haute Matsiatra region has been excluded due to its low importance in coffee production.

2) the Atsinana region has been changed to the Atsimo Atsina region due to the greater significance of the latter region in terms of coffee production, and the presence of important partners of the project (e.g. GIZ, USAID) active in the improvement of chains of value (including coffee) and with which they develop frameworks for collaboration and coordination of activities that allow the upscaling of prioritized interventions.

Increase in the total target area (hectares) of the project: At PIF stage, the project concept targeted 25,000 ha under improved practices and 10,000 ha of forest and farmland restored. The participatory definition of the intervention landscapes, the detailed mapping and quantification of natural habitats, land uses, and land degradation areas, and the participatory work in the field with the different stakeholders, have allowed to redefine the intervention targets. As a result, project design has significantly increased the intended benefits: (i) 1,307,000 ha of landscapes (including 20 percent protected and 80 percent non-protected zones) covered by ILMP plans; (ii) 96,000 ha of landscape with PIA plans for the implementation of the priority interventions, including 5,000 ha of restored forests, 5,000 ha of restored agroforestry systems, 20,000 ha of rice/legume farmland under sustainable intensification, 5,000 of sustainable shade coffee intercropping, 3,274 ha of natural forests under

avoided deforestation, and 58,000 of healthy agroforestry land with avoided tree cutting and system conservation. The average cost per hectare for ILMP planning process, for improved/climate-smart production practices and for ecological restoration in and outside the protected sections of the four target landscapes is aligned with the costs defined in the National FLR Strategy and with the size of the GEF investment.

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[1] System-wide capacity development (CD) is essential to achieve more sustainable, country-driven and transformational results at scale as deepening country ownership, commitment and mutually accountability. Incorporating system-wide CD means empowering people, strengthening organizations and institutions as well as enhancing the enabling policy environment interdependently and based on inclusive assessment of country needs and priorities.

? Country ownership, commitment and mutual accountability: Explain how the policy environment and the capacities of organizations, institutions and individuals involved will contribute to an enabling environment to achieve sustainable change

? Based on a participatory capacity assessment across people, organizations, institutions and the enabling policy environment, describe what system-wide capacities are likely to exist (within project, project partners and project context) to implement the project and contribute to effective management for results and mitigation of risks.

? Describe the project?s exit / sustainability strategy and related handover mechanism as appropriate.

[2] World Bank. 2012. *World Development Report 2012: Gender Equality and Development*. Washington, DC

[3] Projet Agriculture Durable par une Approche Paysage.

[4] Self-evaluation and Holistic Assessment of climate Resilience of farmers, forest users and Pastoralists.

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[1] FAO Global Forest Resources Assessment 2020. Main report.

[2] Beech E, Rivers M, Oldfield S, Smith P (2017). GlobalTreeSearch: The first complete global database of tree species and country distributions. Journal of Sustainable Forestry. 36: 454-489.

[3] Ibid

[4] Places that have a significant concentration of deforestation hotspots and where large areas of remaining forests are under threat.

[5] Pacheco, P., Mo, K., Dudley, N., Shapiro, A., Aguilar-Amuchastegui, N., Ling, P.Y., Anderson, C. and Marx, A. 2021. Deforestation fronts: Drivers and responses in a changing world. WWF, Gland, Switzerland.

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[1] Vieilledent, G. et al. 2018. Combining global tree cover loss data with historical national forest cover maps to look at six decades of deforestation and forest fragmentation in Madagascar. Biological Conservation 222 (2018) 189-197.

[2] Minten, B. Et al. 2013. Forest management and economic rents: evidence from the charcoal trade in Madagascar. Energy Sustain. Dev. 17, 106?115 Special Issue on Charcoal.

[3] Globalforestwatch.org

[4] Globalforestwatch.org

[5] https://www.profor.info/knowledge/madagascar-needs-assessment-scientific-and-technical-capacity-related-management-and-conse

[6] FAO/IAEA. 2022. Controlling Erosion and Land Degradation in Madagascar with the Help of Nuclear Techniques. https://www.iaea.org/newscenter/news/controlling-erosion-and-land-degradation-in-madagascar-with-the-help-of-nuclear-techniques#infobox

[7] https://www.eld-initiative.org/en/where-we-work/africa/madagascar/

[8] Beech E, Rivers M, Oldfield S, Smith P (2017). GlobalTreeSearch: The first complete global database of tree species and country distributions. Journal of Sustainable Forestry. 36: 454-489.

[9] CBD (2012) Global Strategy for Plant Conservation: 2011-2020. BGCI, Richmond, UK.

[10] Beech E, Rivers M, Oldfield S, Smith P (2017). GlobalTreeSearch: The first complete global database of tree species and country distributions. Journal of Sustainable Forestry. 36: 454-489.

[11] World Bank Group (2018) Madagascar Climate Change and Health Diagnostic: Risks and Opportunities for Climate-Smart Health and Nutrition Investment. International Bank for Reconstruction and Development/The World Bank.

[12] Hannah, L et al (2008) Climate change adaptation for conservation in Madagascar. Bio. Lett. (2008) 4, 590-594.

[13] 10,000 ha as a target, based on the IUCN consideration of the minimum area under which plant species are considered ?very restricted? ones.

[14] Busch, J. et al (2012) Climate change and the cost of conserving species in Madagascar. Conservation Biology 26 (3).

[15] Harvey CA, et al. 2014. Extreme vulnerability of smallholder farmers to agricultural risks and climate change in Madagascar. Phil. Trans. R. Soc. B 369: 20130089. http://dx.doi.org/10.1098/rstb.2013.0089

[16] Harvey CA, et al. 2014. Extreme vulnerability of smallholder farmers to agricultural risks and climate change in Madagascar. Phil. Trans. R. Soc. B 369: 20130089. http://dx.doi.org/10.1098/rstb.2013.0089

[17] National Statistics Bodies estimated that, in 2018, coffee was cultivated on a total surface of about 150 000 Ha.

[18] McKinnon, M et al. 2015. Monitoring Natural Capital and Human Well-being in Madagascar. A National Demonstration of Indicators for Sustainable Development. Moore Center for Science and Oceans and Madagascar Country Program, Conservation International.

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[1] Ahmed S. et al (2021) Climate Change and Coffee Quality: Systematic Review on the Effects of Environmental and Management Variation on Secondary Metabolites and Sensory Attributes of Coffea arabica and Coffea canephora. Front. Plant Sci. 12:708013. doi: 10.3389/fpls.2021.708013

[2] Bunn, Ch. Et al. 2015. A bitter cup: climate change profile of global production of Arabica and Robusta coffee. Climate Change (2015) 129: 89-101.

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[4] CABI News September 2020. Building the post COVID-19 resilience for Africa?s coffee sector

[5] Instat, 2010

[6] UPDR / FAO 1999-2000.

[7] Source: FAOSTAT (www.fao.org/faostat/en/#data/TP).

[8] Source: FAOSTAT (www.fao.org/faostat/en/#data/TP).

[9] Arouna, A. et al. 2021. Assessing rice production sustainability performance indicators and their gaps in twelve sub-Saharan African countries. Field Crops Research 271 (2021) 108263.

[10] Minist?re de l?Agriculture. 2015. Strat?gie Nationale de M?canisation de la Fili?re Riz a Madagascar.

[11] McKinnon, M et al. 2015. Monitoring Natural Capital and Human Well-being in Madagascar. A National Demonstration of Indicators for Sustainable Development. Moore Center for Science and Oceans and Madagascar Country Program, Conservation International.

[1] Information extracted from: Whitman, K. et al. 2020. The use of System of Rice Intensification (SRI) near Maromizaha Protected Area, Madagascar. Madagascar Conservation & Development 15, 1: 5?12. http://dx.doi.org/10.4314/mcd.v15i1.1

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et de?fis du monde Collection Cirad-AFD

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[3] Data extracted from: DREP Vatovavy Fitovinany. 2018. Analyse economique et synthetique des filieres Cafe? ? Girofle ? Vanille ? Apiculture ? Vannerie ? Litchi - Transformation de fruits - Pe?che. PROSPERER Project. In the case of the legume VC, data comes
from: https://openjicareport.jica.go.jp

[4] Reducing Emissions from Deforestation and forest Degradation.

[5] the 1996 GELOSE law (standing for Gestion Localise?e Se?curise?e or Local and Secured Management) and the 2001 GCF (standing for Gestion Contractualise?e des Fore?ts or Contractualized Forests Management (GCF).

[6] *Communaut? de base* or grassroot community, or *Vondron?Olona Ifotony.*

[7] SRI : System of Rice Intensification ; SRA: System of Rice Amelioration; CA: Conservation Agriculture; OA: Organic Agriculture.

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[1] Malagasy name for CENRADERU: National Centre for Applied Research on Rural Development.

[2] Silo National des Graines Foresti?res (National Forest Seeds? Silo).

[3] Kew Madagascar Conservation Centre.

[4] Centre d'Appui et de Formation Professionnelle Agricole (Center for Support and Professional Agricultural Training).

[5] Ecoles de Formation de Techniciens Agricoles.

[6] Andriandralambo, N. Et al. 2017. Providing market information to small farmers in Madagascar. Challenging ICTs suitability. 11e?mes Journe?es de Recherches en Sciences Sociales Lyon, France

[7] Andriandralambo, N. Et al. 2017. Providing market information to small farmers in Madagascar. Challenging ICTs suitability. 11e?mes Journe?es de Recherches en Sciences Sociales Lyon, France

[8] IWMP: Integrated Watershed Managment Plan.

[9] Minist?re de l'Environnement et du D?veloppement Durable.

[10] Ministre de l'Eau, de l'Assainissement et de l'Hygi?ne.

[11] SRA: Sch?ma R?gional d?Am?nagement du Territoire ; SAIP: Sch?mas d?am?nagement int?gr? des paysages ; SAC: Sch?ma d?Am?nagement Communal.

[12] NFLRC: National FLR Committee; CER: Regional Environmental Unit.

[13] Restoration Opportunities Assessment Methodology.

[14] The Restoration Opportunities Assessment Methodology (ROAM), produced by IUCN for participatory forest landscape restoration (FLR) planning and prioritization; The sustainable landscape management planning guidelines (Plan d?Ame?nagement et de Gestion Durable du Paysage - PAGDP) developed by the project d?Agriculture Durable par l?Approche Paysage (PADAP).

[15] FAO & Global Mechanism of the UNCCD. 2015. *Sustainable financing for forest and landscape restoration: Opportunities, challenges and the way forward*. Discussion paper. Rome.

[16] Sustainable natural resources management.

[17] Public-private-partnership.

[18] Climate change.

[19] Forest & Landscape Restoration.

[20] GELOSE, standing for Gestion Localise?e Se?curise?e or Local and Secured Management.

[21] GCF, standing for Gestion Contractualise?e des Fore?ts/Contractualized Forests Management.

[22] COBA: community-based natural resources management organizations (or VOI- Vondron?Olona Ifotony in Malgache)

[23] VC: Value chain.

[24] Non-timber forest products.

[25] Community-based natural resources management.

[26] Regional Management Plan.

[27] Inter-municipal Land Use Plan.

[28] Sch?ma d?Am?nagement Communal or Communal Management Plan.

[29] Sustainable Forest Management.

[30] Payment for Ecosystem Services.

[31] Sustainable Land Management.

[32] Biodiversity.

[33] Sustainable Development Goals.

[34] INDC: Intended Nationally Determined Contribution to the UNFCCC; NBSAP: National Biodiversity Strategy and Action Plan.

[35] NPE: New Energy Policy; LPAEP: Sectoral Policy Letter for Agriculture, Livestock and Fisheries; LPA: Agriculture Policy.

[36] Nouvelle Politique de l?Energie.

[37] Strat?gie Nationale d?Approvisionnement en Bois Energie.

[38] LPAEP: Sectoral Policy Letter for Agriculture, Livestock and Fisheries; PSAEP/PNIA: Sectoral Program for Agriculture, Livestock and Fisheries National Agricultural Investment Plan.

[39] Common Market for Eastern and Southern Africa.

[40] SRAT: Sch?ma R?gional d?Am?nagement du Territoire ; SAIP : Sch?mas d?am?nagement int?gr? des paysages ; SAC : Sch?ma d?Am?nagement Communal.

[41] MEDD. 2017. Strat?gie Nationale sur la Restauration des Paysages Forestiers et des Infrastructures Vertes ? Madagascar.

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[1] PAGDP: Plan d?Ame?nagement et de Gestion Durable du Paysage.

[2] Marovoay, Bealanana, Andapa, Soanierana Ivongo, and Iazafo landscapes in Sofia region, northern Madagascar.

[3] Projet d?Agriculture Durable par l?Approche Paysage (PADAP).

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[1] The practical and standard implementation guide of the Forest Landscape Restoration Opportunity Assessment Methodology (MEOR) according to the national context; update of the National Guidelines document for the protection of watersheds; standard guide for the development of landscape and forests for the implementation of FLR; guide to FLR species.

[2] The regional branch of Atsimo Andrefana is being set up under the interregional coordination of the South.

[3] Exploitations agricoles familiales (EAF).

[4] Minist?re de l'agriculture et de l'?levage

[5] B?gat, P. et al. 2020. Terminal Evaluation of the Project : Promoting Climate Resilience in the Rice Sector through Pilot Investments in Alaotra-Mangoro Region. UNEP.

[6] Land Degradation Neutrality.

[7] Nationally Determined Contributions to the UNFCCC.

[8] FLR: Forest and Landscape Restoration; LDN: Land Degradation Neutrality; NDC: National determined Contribution to the UNFCCC; LPBVPI: Policy on watershed development and irrigation perimeters; GIRE: Integrated management of water resources); SNPAB: National Biodiversity Strategy and Action Plan.

[9] Projet d?Agriculture Durable par l?Approche Paysage (PADAP).

[10] PAGDP: Plans d'Am?nagement et de Gestion Durable des Paysages.

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[1] Kazuki, S. et al. 2018. Progress in varietal improvement for increasing upland rice productivity in the tropics. Plant Production Sience, 21:3, 145-158.

[2] Japanise International Research Centre for Agricultural Sciences. https://www.jircas.go.jp/en/release/2021/press202117

[3] Ripoche, A. et al. 2021. Increasing plant diversity promotes ecosystem functions in rainfed rice based short rotations in Malagasy highlands. *Agriculture, Ecosystems and Environment*, **320**:107576, 10 p. https://doi.org/10.1016/j.agee.2021.107576

[4] Ranaivoson, L. Et al. 2017. Is mulching an efficient way to control weeds? Effects of type and amount of crop residue in rainfed rice based cropping systems in Madagascar. Field Crops Research 217.

[5] Serpantie? G & M. Rakotondramanana. 2013. L'intensification de la riziculture malgache, en pratiques. Cah Agric 22 : 401-10.

[6] Whitman, K. et al. 2020. The use of System of Rice Intensification (SRI) near Maromizaha Protected Area, Madagascar. Madagascar Conservation & Development 15, 1: 5?12. http://dx.doi.org/10.4314/mcd.v15i1.1

[7] GERP: Groupe d'Etude et de Recherche sur les Primates de Madagascar

[8] Association for Strengthening Agricultural Research in Eastern and Central Africa (ASARECA): not-for-profit sub-regional organization of the National Agricultural Research Systems (NARS) of 11 members (Burundi, the Democratic Republic of the Congo, Eritrea, Ethiopia, Kenya, Madagascar, Rwanda, South Sudan, Sudan, Tanzania and Uganda), that brings together national agricultural research institutions, agricultural extension service providers and other strategic development oriented partners to generate, share and promote knowledge and innovations to solve common challenges facing agriculture in the member countries.

[9] Andriatiana, M. 2018. Madagascar sets its sights on rice self-sufficiency. Production and value additions. CTA Newsletter 2018, https://spore.cta.int/en/production/all/article/madagascar-sets-its-sights-on-rice-self-sufficiency-sid01f34fedb-cfae-468a-91e0-73c8c5148256

[10] Andriandralambo, M. Et al. 2017. Providing market information to small farmers in Madagascar. Challenging ICTs suitability. 11e?mes Journe?es de Recherches en Sciences Sociales Lyon, France.

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[1] INSTAT, 2020. Troisi?me recensement G?n?ral de la Population et de l'Habitat (RGPH-3).

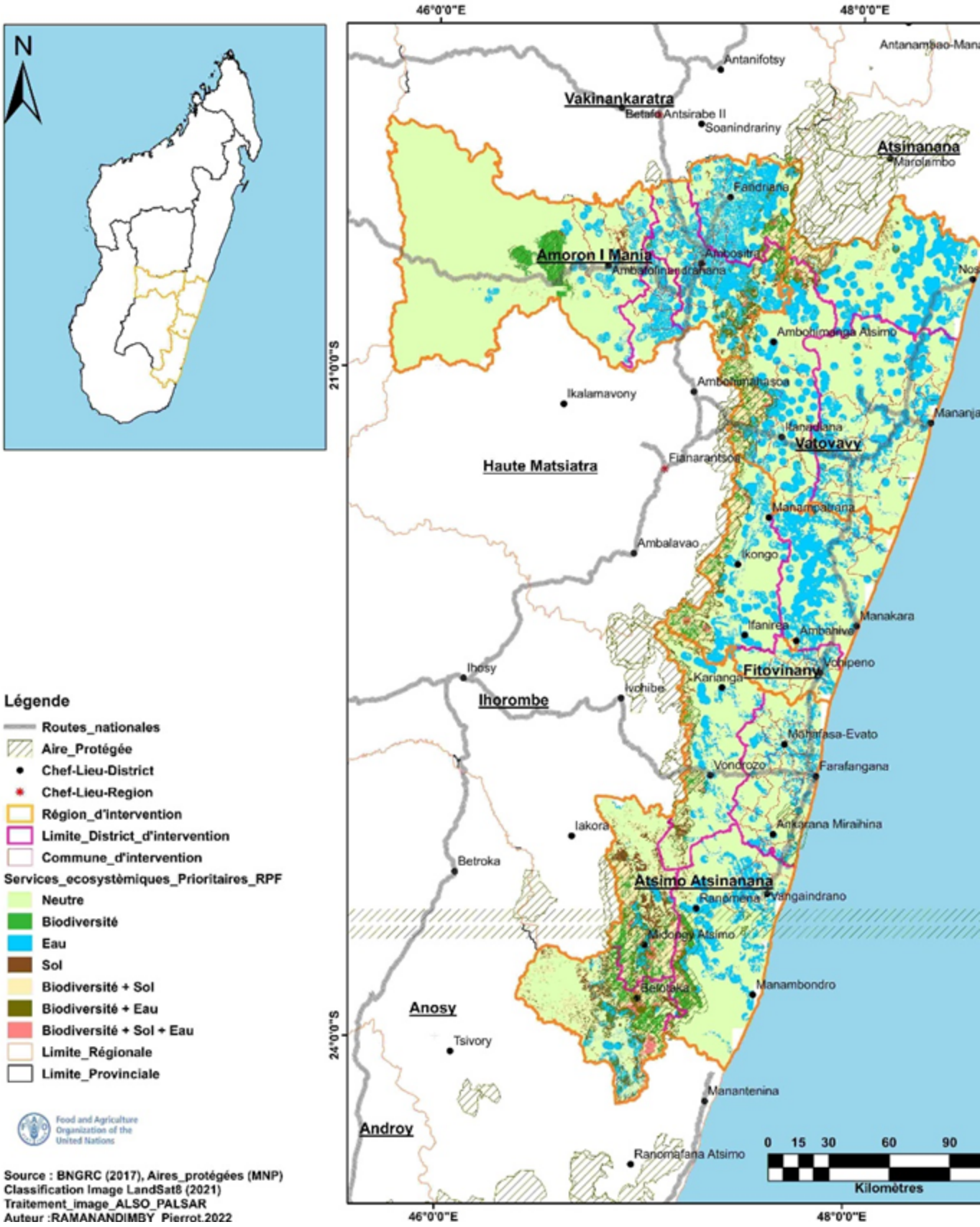
1b. Project Map and Coordinates

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

The Geo- Cordinates of the target landscapes are as follows:

R?gion	**Longitude**		**Latitude**	
Fitovinany	48?12'283"E	47?24'41"E	21?36'5"S	22?28'31"S
Amoron'i Mania	47?32'49"E	46?37'37"E	20?2'11"S	20?49'58"S
Vatovavy	48?25'48"E	47?29'48"E	20?54'44"S	21?43'50"S
Atsimo Atsinanana	47?52'8"E	47?23'40"E	22?31'1"S	23?25'59"S

Map showing the four target regions and pre-identified communes:



Légende

- Routes_nationales
- Aire_Protégée
- Chef-Lieu-District
- Chef-Lieu-Region
- Région_d'intervention
- Limite_District_d'intervention
- Commune_d'intervention

Services_ecosystèmiques_Prioritaires_RPF

- Neutre
- Biodiversité
- Eau
- Sol
- Biodiversité + Sol
- Biodiversité + Eau
- Biodiversité + Sol + Eau
- Limite_Régionale
- Limite_Provinciale

Food and Agriculture Organization of the United Nations

Source : BNGRC (2017), Aires_protégées (MNP)
Classification Image LandSat8 (2021)
Traitement_image_ALSO_PALSAR
Auteur :RAMANANDIMBY Pierrot.2022

1c. Child Project?

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

This project is part of the Integrated Program on Promoting effective coordination and adaptive management for Food Systems, Land Use and Restoration (Global FOLUR IP).

The targeted landscapes are affected by land degradation and deforestation mostly because of (i) agricultural expansion (slash-and-burn rainfed agriculture mainly involving rice, coupled with the traditional agricultural practice of conversion of forests to cash crops), (ii) irrational overexploitation of wood and charcoal, unsustainable grazing practices setting fires, and mining. Population growth, political instability and the overall influence of climate change are exacerbating pressure on land and remaining forests. As a result, natural habitats are lost, and the already endangered species (e.g. large number of wild Coffea species) are further threatened, critical water sources are drying up, and fertile soils are depleted, causing ecosystem services loss, and, ultimately, negatively impacting the productive capacity of the landscapes. The intertwined challenges of forest and landscape degradation and the resulting impacts on ecosystem services, biodiversity and climate change vulnerability correspond to the key problems on which the FOLUR IP Theory of Change (ToC) focuses.

In line with the overall focus and outcomes of the FOLUR IP, the project will adopt an Integrated Landscape Management (ILMP) approach to simultaneously promote the development of zero-deforestation and BD-friendly value chains (coffee, rice/legume, and firewood/NTFPs), climate-smart forest and farmland restoration, NRM and production systems, and responsible tenure governance transferring NRM responsibilities to community organizations in designated forest areas in/outside protected areas. In this manner, the project is closely aligned with the FOLUR IP Theory of Change (ToC). As described in the proposed alternative scenario, through its four components, the project will address the main barriers to sustainability of food systems in the four target regions, reflecting those highlighted in the FOLUR IP ToC.

The project, in full alignment with the FOLUR IP ToC, will contribute to:

a) Component 1: developing integrated landscape management systems and governance mechanisms at landscape level, and supporting enabling policies and responsible tenure governance for the effective and stakeholders? participation (gender- and vulnerable groups-inclusive) and implementation of integrated landscape management plans, responding to the global national commitments and targets (e.g. LDN, AFR100, INDC, BD).

b) Component 2: promoting sustainable, climate-smart agricultural practices across the landscape to reduce negative externalities from rice, and other staple and cash crops (e.g. coffee) and (ii) promoting responsible and inclusive value chains from producer to buyer, in the ethic and bio-certification market segment.

c) Component 3: conserving and restoring degraded forest and agroforestry areas, as well as the genetic resources and habitats of wild Coffea species with the full involvement of local stakeholders, and developing sustainable forest VCs (firewood/charcoal and NTFPs linked to eco-tourism) and innovative PES financing mechanism to ensure the sustainability of ILMP plans on the long term.

d) supporting knowledge management at local, national and international levels under Component 4, reflecting the ToC of the FOLUR IP.

All the elements described above will both contribute to enrich the knowledge shared by the Global FOLUR IP and benefit from the products and services proposed by the IP. As described in the FOLUR IP Guidance note ?To achieve transformation in food systems and commodity production practices at a global scale, the country level efforts and global efforts need to work together on key issues and strategies, engage key private and public sector actors, and advise on policies that shift producers? incentives toward sustainability.?

The project foresees to contribute to the Global IP K2A platform mainly through knowledge sharing of its lessons learnt and intend to contribute actively to the activities (meetings, webinar, collaborative thinking, etc.) proposed by the IP.

The project will also benefit from the Global IP through:

- Training and practical support on ILMP planning and monitoring. The support of the global body of knowledge and exchanges with other countries on this topic will be critical.

- Specific support to the certification process. Indeed, the project will support the the ethic/bio-certification process for coffee and other NTFP products. The support can come as training, technical assistance on specific points and linkages to international groups such as IACO, the SFCC and its members (potential international buyers operating in the fair trade, bio, and specialty coffee, and committed with zero-deforestation production). The Community of Practices focused on specific commodities, such as rice and coffee, will be a key resource.

- Exchanges with other countries on innovative financing mechanisms that work in other projects and could be replicated in Madagascar. The project will be testing different options but exchanges on this particular topic will be beneficial. The Global IP will also support the development of innovation funds on key areas like private sector and gender.

- Private sector engagement support as the Global IP intend to ?catalyze country level engagement with private sector to transform commitments into actions by providing dialogue opportunities, regular participation in round tables? and ?Leverage responsible investments through regular, regional finance forums, deal brokering?.

- Providing template and guidance on knowledge product development. The project will collect the information and support how to best present it from impact internationally will be needed.

Ensuring that the indicators reported allow to follow the progress on the global target of the IP, aligning national and international targets.

2. Stakeholders

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

Civil Society Organizations Yes

Indigenous Peoples and Local Communities Yes

Private Sector Entities Yes

If none of the above, please explain why:

During the formulation phase, the project team met with a broad range of stakeholders at the national and district/local levels to (i) assess land/forest degradation and CC impact problems and community development constraints, (ii) identify and prioritise target landscapes and boundaries, (iii) identify best practices and leading actors in/outside target landscapes, (iv) brainstorm on the project objectives and intervention lines, (v) seek consent to the build-up of partnerships, (vi) gather information about the environmental and socio-economic contexts in the target landscapes, and (vii) validate the project design. The workshops, focus groups discussions, meetings, and field visits organized during project preparation coupled with the feedback received during the inception and validation workshops (online events due to COVID-19 restrictions) helped identify/map the different stakeholder categories with a gender focus, analyse their problems/needs/expectations/interlinks, and define the different roles they are expected to play in the project. The main stakeholders can be grouped into six categories: governmental institutions, research institutions, local stakeholders, NGOs, private sector, and international development agencies.

Throughout the project formulation phase, FAO and the project development team did not identify any stakeholder that may be negatively affected by the project.

Specific activities on stakeholder consultation and engagements included the following:

Inception workshop (IW). The IW took place online due to COVID-19 restrictions (1 June 2021), with the participation of the GEF Project Design Expert, the National Experts, Representatives of FAO (Rome HQ and Madagascar Country Office), Representatives of the lead national partner (MEDD) and MINAE, and a large number of representatives of national and Regional-level governmental institutions, Research, NGO, private sector, and international development agencies. The objective of the IW was to introduce the project and the project development team, review proposed project preparation activities, review and assess other current initiatives relevant to this project, identify potential co-financing, endorse the project preparation approach, and trigger a preliminary debate on the objectives, scope, and actions of the project.

Stakeholders? Consultations in the target areas (SC). Several rounds of consultations were organized by the National Consultants, with the support of MEDD and FAO Madagascar staff, between December 2020 and May 2021. Meetings with key informants, field assessments, interviews with local farmers, workshops, and focus groups discussions, took place at the national, regional and landscape levels (proposed project landscapes), involving a wide range of stakeholders (governmental institutions

representing different sectors; users and producers organizations; researchers; NGO and CBO representatives; private companies; protected area managers, key informants of partner organizations) to obtain their perspectives on project activities and ensure that the project would meet their needs. The consultation can be divided into four categories:

1) semi-structured interviews with several decentralized authorities, deconcentrated technical services, responsible of projects/programs or decentralized regional managers, managers of public or private projects and programmes.

Regions	Consulted Organizations
A Atsinanana	FDAR, DREDD, PAPRIZ/JICA, MNP, Formaprod/FIDA ; DRICC ; R?gion Atsinanana (DID); DRAE ; TAFO MIHAAVO
Amoron?i Mania	DREDD, CEDD, DRAE, R?gion, District, Commerce, CSA, OPR Riz, PAPRIZ, FORMAPROD, Association TSIRY PARMA/TSIRY MADA, ONG Ny Tanintsika, SNGF, FTM/CPM, Tafo Mihaavo, Tranoben'ny Tantsaha, FDA, VOI Ezaka et Taratra, Association Tsiry Parma, SNGF, FAFIAM ? Soamitambatra, DRAE, FDAR, PAPRIZ/JICA, DREDD, Service Topographique Ambositra, DRICC, Centre Fiscal Ambositra, TRANOBEN?NY TANTSAHA, FTM/CPM Amoron'i Mania, Direction de l?Economie et du plan
Haute Matsiatra	DREDD, CEDD, DRAE, CirAEP and old employees of CNCC
Vatovavy	CSA, PROSPERE, DEFIS, Chambre de Commerce, CIRAE, CEF, MBP, FOFIFA/KCRS, MNP, Centre Valbio, CGEAF, Tranobe ny Tantsaha, CRS, District, Pr?fecture, Mairie
Fitovinany	DRAE, DREDD, DEFIS, ADRA, R?gion Fitovinany, District Vohipeno, CU Vohipeno, Ferme St Fran?ois d?Assise.

Three types of information were collected at the regional level:

? Information on the sectors concerned: the coffee and rice production zones, the technical itineraries, the characteristics of the various links in the sectors concerned, the blocking nodes, the constraints and the opportunities, etc.

? Information on the activities in favor of these sectors: the projects, public and private programs (NGOs, companies) involved in the sectors concerned, the innovations made, the constraints for the conduct of the activities, etc.

? Information on the local political framework for interventions in favor of these sectors.

The collection of information during this first stage was done in a semi-structured interview with each of the decentralized or decentralized regional managers, managers of public or private projects and programs. In addition, relevant documents were also collected during this step.

2) Focus group (FG) discussions with agriculture producers at the landscape/community level:

Regions	Communes	Location of FG discussions	N? of participants
A Atsinanana	Betsizaraina	Maison des jeunes au niveau de la Mairie	63
	Ampitakihosy	Dans la cours d?un paysan relai	16
	Niarovana Caroline	Commune	36
	Ilaka - Est	Mairie	60
Amoron?i Mania	Ilaka centre	Grande salle de la Mairie d?Ilaka Centre	111
	Ivony-Andina	Grande salle de la Mairie d?Ivony	112
		Dans la salle de BIF d?Andina	
	Ambovombe Centre	Grande salle de la Mairie d?Ambovombe Centre	104
	Ambohimahazo	Dans le Tranom-pokonolona pr?s du bureau de la Commune	101
	Alakamisy Ambohimahazo	Dans une salle de l?EPP Alakamisy Ambohimahazo pr?s du bureau communale	115
	Tsarazaza	Grande salle de la Mairie de Tsarazaza	102
Fitovinany	Analavory	Face bureau Commune	109
	Vohimasina Nord	Tranobe Ampanjaka	109
	Mahazoarivo	Face bureau Commune	118
	Andemaka	Paroise Ekar Andemaka	119
	Vohipeno	Tranompokonolona CU Vohipeno Centre	120
Vatovavy	Mahatsara Sud	Tranom-pokonolona Mahatsara Sud	100
	Kianjavato	Tranom-pokonolona Kianjavato	103

	Mananjary	Salle de r?union Mananjary	56
	Ifanadiana	Lapan?ny vahoaka Ifanadiana	128
	Antaretra	FLM Antaretra	81
	Kelilalina	Salle d??uvre EKAR Kelilalina	101
Haute Matsiatra	Sahambavy	Salle de r?union de Sahambavy	101
	Androy	Salle communale d?Androy	119
	Isorana	Salle communale d? Isorana	103
	Anjoma Itsara	Salle communale d?Anjoma Itsara	105
	Andoharanomaitso	Salle de r?union de la commune d?Andoharanomaitso	107
TOTAL	26		2,499

The focus groups with coffee and rice producers took place at the commune level. Focus group discussions made it possible to get a meso-economic vision of the two main targeted value chains (coffee and rice): types of actors, their roles and strategies, the constraints observed at the level of each type of actor, etc. A focus group discussion brought together an average of 100 producers and other actors involved in the coffee and rice VCs. Focus group discussions took place at the level of the 26 visited communes during field missions.

3) Focus group (FG) discussions with producer organizations (POs) at the landscape/community level:

Regions	N? of visited communes	N? of Coffee POs attending FG	N? of rice Pos attending FG	N? of Coffee POs interviewed	N? of rice Pos interviewed
A Atsinanana	4	0	0	0	0
Amoron?i Mania	6	4	45	4	12
Fitovinany	5	0	0	0	0
Vatovavy	6	27	22	22	18
Haute Matsiatra	5	4	14	3	5
Total	26	35	81	29	35

Focus group discussions with producer organizations helped understand problems and linkages amongst VC actors.

4) Household (HH) questionnaires: A sample of 274 HHs (an average of 50 HH per region) was selected to collect baseline information on family farms. Sampling respects the representativeness of the target population, i.e. HH-headed according to gender, type of farm, membership of POs, degree of importance given to the sectors concerned, etc. The collected information concerned the general characterization of the farms, information on their livelihoods, productivity, market, sales and supplies, etc.

In all community-level consultations, community leaders were approached in advance as a way to respect local social norms, and were asked to gather representative groups, making sure that women and young people would be equitably represented. The discussions were facilitated by the national consultants with experience in community participation work, who encouraged the participants to introduce their concerns about environmental and development issues and perceptions of CC impacts, describe their experience on ER/SLM/SFM/VC, identify opportunities and risks related to the future project, express their wishes and concerns, and prioritise actions and interventions. Consultations provided feedback about capacity development needs for the different stakeholders, FLR priorities, and helped identify a preliminary list of VC commodities for the project.

The outputs of these consultations were missions? reports with discussions? results and list of participants, which were used to inform the project development exercise. The team felt a very positive attitude towards the project, with high participation and lively discussions. No major concerns were raised by the interviewees. Among the most frequent recommendations: (i) ensure coordination with on-going initiatives and avoid duplication; (ii) build on past achievements and learn from mistakes and experiences from past/on-going projects; (iii) ensure empowerment of local actors and grassroots beneficiaries with the effective participation of the most vulnerable groups as direct beneficiaries of the project investments; (iv) inform and open the project opportunities to all the population in the target communes and not only the existing community-based organizations which in some cases are no longer active; (v) capacitate sufficient number of local trainers (e.g. champion farmers) that are locally established and able to provide training and technical advice to vulnerable local users in the many inaccessible areas,; (vi) establish local management committees such as the LPs; (vii) fill capacity gaps of key stakeholder groups on technical, business management, leadership, organizational and literacy issues, through specific gender-inclusive training to ensure equal participation of men and women; (viii) maximise the use of national expertise and resources.

Peer Consultations (PC). Several consultations took place with national and international institutions responsible for baseline investment projects, related initiatives and buyer companies, to learn about past/on-going best practices, constraints and needs, explore coordination arrangements and partnership agreements. These included: (i) development agencies (AfDB, EU, GIZ, IFAD, JICA, UNDP, USAID, WFP, WB), (ii) ministries and government departments, MNP, SYMABIO, CNCC, (iii) Research centres (FOFIFA/KCRS, CNRE, CIRAD, Univ. of Antananarivo, Univ. Fianarantsoa, Institutions Sup?rieures de Technologie agricole (IST), Ecoles de Formation des Techniciens Agricoles (EAFTA),

lyc?es techniques professionnelles agricoles (LTPA)), (iv) private companies (Akesson Group, soci?t? Sangany society, soci?t? SAMA, TAF Madagascar, P?pini?re de la Mania Centre Technique Horticole de Tamatave (CTHT), OmniVerdi), and (v) civil society (SOA, KMCC, CI, MBG, ONG Tandavanala, Voiala Madagascar Ass., Feedback Madagascar Ass./ Ny Tanintsika, TSIRI MADA Ass., SAF/FJKM, Association pour le progr?s des paysans (FIFATA).

At the international level, the project team member - coffee VC expert ? attended events and organized several consultations with members of the main international coffee VC partner ? SFCC ? to introduce the project, discuss a partnership framework, and seek interest among the members of SFCC (companies involved in fair trade and organic/specialty coffee markets) to undertake a PPP process leading to direct agreements with the project's target coffee producers.

Validation Workshop (VW). Due to the COVID-19 crisis, the VW was organized through virtual meetings with a more limited number of representatives of the different stakeholder groups. Two virtual meetings were organized (a first pre-validation of more technical content with personnel from the main implementation agencies MEDD, MINAE and FAO, and a second extensive validation to all stakeholders of interest) at the national level in March 2022 to review and verify/endorse the project design, secure co-financing commitments, finalise implementation arrangements and project budget.

Please provide the Stakeholder Engagement Plan or equivalent assessment.

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

The Stakeholder Engagement Plan (see Prodoc Annex I2) presents the details on the stakeholders engaged in the project development and project implementation as well as the method for stakeholder engagements.

Different budget lines have been allocated to ensure the identified stakeholders are meaningfully involved throughout decision making and project implementation process. This includes several capacity development workshops at local, and regional levels, regular coordination meetings, multi-stakeholder working groups/platforms to define the integrated management plans at both local level and regional level, knowledge and communications strategy, among others.

Moroever, benefitting from the FOLUR global exchange mechanims, the project will use exchange of experiences as tools for learning and popularizing technological and other innovations. Virtual and physical visits, including inter-landscape learning approaches, will be supported to encourage exchange of experiences among producers and to facilitate the uptake of good practices. Three types of physical exchange visits are envisaged:

(i) visits between growers within the same landscape to share experiences between growers,

(ii) exchange visits between landscapes / regions;

(iii) exchange visits with the coffee landscapes of neighboring other FOLUR-supported projects.

The project will also use virtual methods, such as video viewing clubs and tools like WhatsApp for group learning regarding topics such as: planting, replanting and diversification; sustainable fertilization and intercropping; value added and processing; basic negotiation and market skills; gender equality, decent work, etc.

Under component 2, the project will strengthen the technical capacities of cooperatives and SMEs and help them access financing for inputs and equipment that will enable them to provide quality support services to farmers linked to improvement, including increased sustainability, of production systems:

? Capacity building of rural cooperatives and SMEs to provide better quality services using a "train the trainer" approach,

? Sensitization of farmers' cooperatives and SMEs and capacity building for promoting greater social responsibility at farm level,

? Promotion of innovative marketing tools to increase the engagement of buyers, consumers and producers in a sustainable, responsible and efficient value chain.

The results framework has been structured to include indicators that ensure stakeholder participation in all components of the project. The engagement of national and local institutions is also reflected in the results of institutional capacity development, strengthening of policy, regulatory and planning frameworks. At local level, the communities, farmers, entrepreneurs will be engaged as main actors in sustainable land management. At landscape level, the development and implementation of integrated land use plans will involve extensive consultation of local stakeholders.

The PMU will be responsible for implementing the stakeholder engagement activities as outlined in the Stakeholder Stakeholder Engagement Matrix. It will also be responsible for monitoring and reporting on stakeholder engagement through the annual project implementation reports (PIRs).

Select what role civil society will play in the project:

Consulted only; No

Member of Advisory Body; Contractor;

Co-financier;

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

Executor or co-executor; No

Other (Please explain)

3. Gender Equality and Women's Empowerment

Provide the gender analysis or equivalent socio-economic assesment.

The Project has embedded the consideration of key gender issues throughout its four components to contribute to closing the gender gap in the target districts, communes and landscapes. During the design phase, field consultations were planned and used FAO social/gender analysis tools (e.g. SHARP and gender-sensitive VC analysis methodologies), in order to make the proposed project interventions more people-centred, socially inclusive, equitable and sustainable by ensuring a close fit with local contexts, culture and livelihoods, and to safeguard the interests of the weaker sections of the population, including women.

A key challenge to social sustainability in the effective users? adoption of climate-smart forest/land restoration and agronomic systems and technologies, and in the effective participation of producer organizations in ethical/green value chains, is the development of the communities? capacities to access natural resources in an equitable and sustainable way and to take active action in the development of ILMPs and implementation of PIAs. This challenge will be addressed by ensuring that the project participation strategy has a positive discrimination towards women, and that women producers, associations and cooperatives are well represented in the process of design, implementation and monitoring FLR landscape plans. Access to education and knowledge, training, technical support, and physical and financial resources, will empowering women to strengthen their role in planning and decision-making, and to improve their productivity, resources, incomes, and living conditions.

Since the launching of the project, the PMU, supported by a project gender specialist, will address gender integration throughout the Project lifecycle based on a thorough understanding of the drivers of change and the gender dynamics. The different needs and priorities of women (e.g. women?s association and cooperatives) and of men will be considered as activities are designed in detail taking into account the specificities of each of the sectors concerned (e.g. diversified production of shadow intercropped coffee and rice/legume agronomic systems; adaptive forest restoration and management and NTFP VC development; Community-based SNRM) and taking into account of local customs. The project will build on the various analysis of gender mainstreaming into responsible tenure governance and NRM transfer, targeted development sectors, and biodiversity conservation in Madagascar developed by USAIS, CI, AfDB, WB and FAO, among others[1].

Under Component 1, the project will ensure adequate and outspoken women?s participation in the Landscape Platforms (LP) in charge of the FLR landscape planning process. The policy assessment leading to the formulation of the Policy Influencing Plan will look into gender gaps within the existing legislation/regulations and the barriers that prevent women from playing a pivotal role in responsible tenure governance, SNRM, and rural economy. Women will play a key role in the review and formulation of the policies and landscape-level by-laws supporting ILMP prioritization and PIAs

implementation. The LP members and project implementation partners in the target landscapes will make use of the awareness raising and training tools at their disposal to help women learn and use the existing policies and regulations on tenure governance, FLR, SLM, SFM, VC development, and influence the formulation of bylaws supporting the implementation of ILMP priorities to make sure gender issues are well captured. The project will also guarantee equitable membership of women in the PMU, decentralized teams, VC platforms, national/local-level committees and other governance mechanisms established/supported by the project.

At the community level, as documented in the baseline assessments, women?s access to land and participation in natural resource management and decision-making processes is rather weak. Under Components 2 and 3, the project will overcome this problem by ensuring: the consideration of gender specificities in community-based land/forest restoration, coffee/rice VC development, business dev. & trade support, and climate change adaptation needs; the equitable access to information, training, extension, innovative technologies and high-quality inputs, financial services, and participation in the governance of resources. Gender and social equitability criteria will also be paramount in the selection of beneficiaries ? cooperatives, producers? organisations, small local enterprises ? for accessing investments, training and technical support under the different procurement windows, and to participate in the inclusive agribusiness PPP, and VC platforms to boost green value chains for target commodities. The project will apply the *FAO Guidelines for Developing Gender-sensitive Value Chains* to make sure that GVC development: provide opportunities for women to gain access to input and market information; improve women participation in association leading roles; assist women?s groups to purchase equipment to expand processing; favours women participation in enterprises; assist women to overcome mobility constraints and social barriers; encourage more women-led enterprises to join trade platforms.

All the capacity development programs delivered will strive to ensure that half of the participants are women ? also creating a conducive environment for their participation ? and that women are given priority for training in diversified livelihood options. Extension and other technical support will ensure gender equity throughout its activities, also by training the maximum possible number of women extension agents.

The recruitment of a gender specialist will ensure knowledge of gender concepts and practice of gender sensitive participatory methods. The gender expert will be working with the M&E expert to ensure the set-up of an M&E system that facilitates gender mainstreaming. Data will be disaggregated by gender to monitor for the differential gender impacts of the project.

The project will apply the FAO?s Policy on Gender Equality to achieve equality between women and men in all the targeted land/forest restoration and sustainable development interventions in the target landscapes. The project will make use of the Gender Action Learning System (GALS) methodology that uses the principles of gender inclusion to improve the incomes, as well as the food and nutritional security of vulnerable people while respecting gender equity, that has been piloted by IFAD under FORMAPROD and expanded under DEFIS in all the four target regions (Amoron?i Mania, Fitovinany, Vatovavy and Atsimo Atsinana).

The project is aligned with the National Policy for the Advancement of Women 2000-2015, (currently being revised) which addresses rural women empowerment through various sectors, and with Priority 13 (women?s empowerment and child protection) of the Governmental Plan Emergence Madagascar (PEM). In addition, the project is aligned with several the gender priorities defined in several sectoral policies or strategies, in particular the *Agriculture, Livestock and Fisheries Sector Program and its National Agricultural Investment Plan*, which contains a subprogram dedicated to supporting small producers, primarily women, and the *Water, Sanitation and Hygiene Strategy (2013-2018)*, which aims to ensure planning that respects the criteria of equity, vulnerability and gender, the NBSAP (2015-2025) which requires that equitable access to ecosystem services is guaranteed for all, taking into account the gender approach, and the National FLR Strategy 2030 that recognizes the major role played by women in forest restoration.

Below a summary of the gender considerations that were taken into account when developing the Gender Action Plan (GAP).

Gender analysis (or equivalent socio-economic analysis):

- National Policy on Equality Between Women and Men still not finalized.

•- Women earn an average of 34 percent less than men, female-headed households have a higher incidence of extreme poverty than male-led ones.

•- Women?s fewer resources, limited financial backing and networks, limited education and traditional gender norms are barriers to their participation in decision-making bodies and leadership positions. According to INSTAT 2012 data, only 5.5.% of women were involved in political bodies and 15% in professional organizations.

•- Limited leadership and community participation related to regional, inter-communal and communal planning, especially of women and girls, is due to gender norms, time constraints, and insufficient education.

•- Social and cultural norms defining unequal male and female roles, responsibilities, and access to resources in Madagascar, lack of women?s literacy, limited access to education, training, extension and finance support, cause challenges that disproportionately impact women and girls? participation in decentralized tenure governance and in the management of natural resources.

•- Discrimination in land ownership and inheritance persist in Madagascar, especially in rural areas. Though formal laws promote women?s land ownership during marriage (including the 2005 Land Law), traditional marriage codes often supersede them, resulting in women frequently losing their assets when they separate from their partners or become widowed.

•- In rural areas, men and women?s roles and responsibilities are gendered and relegate women to agricultural tasks that are less valued and pay less. Women have more responsibilities due to heavy domestic tasks and agricultural labor, including work in the informal sector to support the family.

•- Unmarried women are the most impacted and highly vulnerable to the ongoing CC impacts because of their high dependence on rain-fed agriculture (versus agriculture benefiting from irrigation infrastructure) as well.330 Women do not have control over seeds, fertilization, agricultural equipment, credit, information, and technology.

•- A large proportion of women do not have the control over their incomes. Only 30 percent of women decide for themselves how to use their income. Women?s earnings are on average 34% lower than

men?s, which limits their means of investing and paying for inputs, and female-headed HHs have a higher incidence of extreme poverty than those headed by males.
●- Poverty, lack access to productive resources and lack of diversified income sources, which disproportionately impact women and other vulnerable people, reduces women HH?s resilience.
●- Women?s involvement in associative bodies is often limited and does not include decision-making or leadership responsibilities.
- Accessing financial services is a challenge especially for women and youth because of limited collateral, limited financial literacy, and cultural norms that require male permission for females to take out credit.

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[1] Institut National de la Statistique.

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[1] Groupe de la Banque Africaine pour le De?veloppement (2017) *Profil Genre Pays Re?publique de Madagascar; Mahmud, Rachel, and Malanto Rabary (2019) USAID/Madagascar IMPACT Program Gender Equality and Social Inclusion Analysis and Action Plan, Banyan Global; USAID (2019) Improving Market Partnerships and Access to Commodities Together (IMPACT) Program, Gender Equality and Social Inclusion (GESI) Analysis and Action Plan; USAID (2020) Women?s Economic Empowerment and Equality (WE3) 2020 Madagascar; WB (2014) The Face of poverty in Madagascar: Poverty, Gender and Inequality Assessment; CI-GEF (2018) Madagascar gender mainstreaming plan; OECD (2014) Social Institutions and Gender Index ? Madagascar.*

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

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

Improving women's participation and decision making Yes

Generating socio-economic benefits or services or women Yes

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

Yes
4. Private sector engagement

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

The participation of the private sector and access to financing is essential for the sustainability of the ILMP plans and project interventions, as well as for strengthening solid linkages of small producers with markets and ensuring the long-term adoption of sustainably intensified agriculture and forest production systems (zero-deforestation, BD-friendly, socially-responsible) on which high quality production for certified markets depend. Recognition of the key role of the private sector in sustainable development is increasing in the country, and the project design will take advantage of this trend. The project will promote the development of strategic alliances with the domestic and international private sector operating in the coffee (other VCs) ethical/green markets, under the leadership of the SFCC and its members, to support PPP inclusive agribusiness agreements with producer organizations in the target landscapes, including training, coaching and the search for innovation and technology for a more sustainable, climate-smart, gender inclusive, social-responsible production, processing and marketing activities.

The project has been designed in large part to support PPP development with the active participation of SFCC members and to dynamize VC platforms (CNCC, PCP-Riz, and other existing/new regional/landscape level VC platforms) to: (i) allow national and international, and public and private coffee sector stakeholders work side by side to collectively identify country-specific sustainability priorities, define common goals and visions, and work together to achieve them; (ii) promoting dialogue and commercial linkages among VC actors; (iii) supporting the development of quality and traceability norms meeting national and international standards; (iv) organizing business events to share information and learning, identify marketing opportunities and catalyse linkages among VC actors.

During the design phase, the project development team visited and interviewed representatives of the private sector operating in the four target regions. These included: (i) coffee production organizations and cooperatives (men, women and mix ones), and CBNRM organizations and women associations involved in firewood/charcoal, honey, wild silk and basketry; (ii) community-based nurseries and national public and private organizations (e.g. SNGF, FOFIFA, OmniVerdi, local NGOs), producing and marketing seeds and seedlings; (iii) Small, medium and large national and international agri-business companies active in the target landscape and other national and international stakeholders of the coffee sector, such as: cooperatives and SMEs (e.g. Sangany Caf?, an IDH[1]-supported initiative for an inclusive and enhanced coffee supply chain model), processors (e.g. TAF Madagascar- Taloumis group), producers (Akesson Group, Sangany society, SAMA society), exporters (Alza Import Export SARL, Kalfane and Fils SARL, Ramanandraibe Export, Deslandres et CIE SARL, etc.) and international private players (main focus on SFCC members); (iv) Stakeholders involved in organic agriculture, such as the Malagasy syndicate for organic agriculture (SYMABIO), fertilizers producers (Guanomad, Madacompost, Ze.O. Compost); (v) Certification companies such as the Ecocert Group. As it can be expected, the outcomes and conclusions of this assessment are very varied. For instance, opportunities for both domestic and international GVC development seem good for coffe, vanilla, clove, wild silk, litchee and lime bean, while the internal market (including the tourism sector) is predominant for rice, small livestock, honey, basketry and wood/fuelwood alternatives through woodlot

planting and management, efficient charcoal production techniques, and the promotion of innovative technologies for a more efficient fuelwood consumption.

The private companies operating in/nearby the target landscapes see the potential to source agro-forestry products through inclusive agribusiness models and contract farming agreements with smallholder producers and producer organizations. However, many challenges remain creating high transaction costs. Uncontrolled and/or illegal timber/fuelwood harvesting and charcoal production, and maladaptive agricultural production practices remain the main income sources for rural population, reducing the availability of land and natural resources for the production of high-quality products with growing market demand. Common challenges faced by buyer companies and producer organizations are low level of skills of both producers and extension technicians, limited infrastructure (poor road network and irrigation), lack of access to inputs and equipment, which results in low quality and irregular/poor yields. Producers are scattered and poorly organized and produce on a small scale. Furthermore, in the absence of formal and informal mechanisms to enforce compliance to SNRM practices and bylaws, smallholders tend to overexploit. In the case of contract farming agreements between buyer companies and farmers in Madagascar, two of the main challenges are that: on the one side, many farmers do not place high value on the signing of contracts and the commitments this entails and have difficulties to meet supply and quality terms; on the other side, some companies do not have environmental and social corporate responsibility policies, leading to poor working conditions and the overexploitation of natural resources and land degradation. While there is a promising national and export market for ethic and bio-trade products for instance, in the areas of specialty foods (i.e. vanilla, coffee, 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. Most Malagasy farmers do not have access to a reliable and sustainable market for their products, especially in the case of agroforestry producers. Local companies lack marketing skills, knowledge about the potential of the products in their various forms and have limited access to market information.

While working with women and men producers? organisations and groups in the target district to develop and upscale their capacity and business, the project, with the support of SFCC, will contact the most promising market operators for the target commodities to inform them about the project, check interest about improving existing/supporting new contract farming agreements with the project beneficiaries, and understand the conditions that must be met to establish commercial agreements with the producer organizations supported by the procurement windows. The tools made available to foster the producers-buyers partnerships will include: (i) procurement investments, training and technical support to producers organisations and small local enterprises; (ii) setup and/or strengthen existing VC platform to facilitate dialogue and joint learning among different actors of the VC; (iii) facilitate access of targeted local POs, cooperatives and SME to FFBI schemes; (iv) facilitate access to international markets by identifying new fair-trade, bio-certification and specialty coffee market segments and players, including international fair-trade operators, organic food companies and retailers. The interventions supported by the project will be inspired by effective examples of sustainable production and business development partnerships between local producers and buyer companies in the target

regions ? including Blue Venture/Reefdoctor support to octopus and mud crabs; GIZ/PAGE support to honey and charcoal VC in Atsimo Andrefana region; IFAD support to agriculture and NTFP VC in the two target regions; WWF support to contract farming between Bionexx and Aromania and local producers in COFAV region.

Another opportunity for the involvement of the private sector is in the working line to secure the long-term sustainability of ILMP plans through the creation of private-public partnerships revolving around the financing of PES. A specialist hired by the project will assess opportunities, develop a roadmap, and identify potential buyers and sellers around selected ecosystem services.

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[1] IDH: Sustainable Trade Initiative, bringing farmers, roasters, brands, standard organizations, and governments together in a global network to align strategies and share best practices and innovation from pilots to make coffee farming profitable, environmentally friendly and climate resilient.

5. Risks to Achieving Project Objectives

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

Project risks have been identified and analyzed during the preparation phase and mitigation measures have been incorporated into the design of the project. The PSC will be responsible for the management of such risks as well as the effective implementation of mitigation measures. The PSC will also be responsible for monitoring the effectiveness of mitigation measures and adjusting mitigation strategies as needed, and to identify and manage any new risks that were not identified during project development, in collaboration with project partners. The main risks, their ranking and mitigation measures are presented in the following table.

Risks rating and mitigation actions

Description of risk	Impact[1]	Probability of occurance3	Mitigation actions	Responsible party

Lack of political will to improve/reform/ harmonize responsible tenure governance and integrated sectoral policies, strategies, and regulations, and establish a cross-sectoral coordination mechanism. Turnover and changes in decision makers and institutional arrangements beyond the control of the project may lead to a volatile environment that hampers the long-term success of the work.	M	M	- Project priorities are aligned with the GoM international commitment and with the most recent national strategies, policies and legislation. The political will and enabling conditions for policy improvements will be further strengthened through implementation of components 1 focusing on FLR planning mechanisms, policy improvement, and bylaw formulation. - The empowerment of the NFLRC members (relevant governmental sectors and public and private stakeholders) through their active involvement in the PIP implementation, and the sharing of best practices on landscape governance and bylaw formulation in the target ILMP/PIA plans (Component 1) will increase the chances of long term buy-in and conduciveness.	MEDD & MINAE
Insufficient capacity and resources within the concerned decentralized public services to successfully engage in complex, comprehensive ILMP planning, implementation and monitoring.	M	L	- Component 1 will strengthen capacity at the regional, district and municipality level to enable the staff of decentralize services (e.g. agriculture, forest, energy, water, tenure, special planning, gender) to effectively engage and coordinate multi-sectoral and multi-stakeholder FLR planning and implementation processes. - Component 2 will develop an extension system (ToT and FFS/FBS/FFBI learning schools) to ensure the necessary pool of knowledgeable extensionists in the target landscapes (with special focus to remote areas) through public and private institutions and individuals.	PMU

The project is unable to secure the external expertise and technical assistance required for a proper and timely implementation of the work plan.	L	L	- The fact that the project is nested within baseline investment projects, the pool of expertise made available by MEDD, MINAE, FAO Headquarters and Country Office, and LoA implementation partners, will highly minimize this risk.	PMU Implementing and Co-financing Partners (IPs and CFP)
Local communities are reluctant to engage in or abandon the adoption of ER, SLM, SFM and GVC priorities in their respective landscapes.	M	M	- The project design recognizes at the outset that capacity development is a long-term endeavour requiring long-term support throughout the right implementation process. The continuous coaching of farmers through highly qualified peers, with the support of experts from public and private organizations, will help consolidate the long-term adoption of ER/SLM/SFM/SVC by land users and producer organizations. - The participatory nature of ILMP planning and implementation and selection of priority interventions, together with the accompanying education, training, technical support and project investments (procurement windows) will maximize community buy in. - The fact that the project interventions are clearly aimed at improving economic and food security through income diversification and business opportunities for the vulnerable population will encourage involvement, long-term adoption and buy-in.	PMU, LP, TA, IPs

Project interventions fail to be gender inclusive	L	L	- The project recognizes the gender constraints of women-headed HHs in terms land tenure rights, access to capacity enhancement programmes, access to finance, technologies, inputs, labour, etc. Capacity enhancement interventions will address the specific role, constraints and needs of women in rural development, with concrete awareness raising and training activities to strengthen women leadership and secure their land rights and effective adoption of ER/SLM/SFM/GVC. - Gender balanced targets will be applied in capacity enhancement participation and access to investments through procurement windows.	PMU, IPs
Current and future CC impacts threaten the sustainability of SLM/SFM investments	M	L	- The project seeks to restore and enhance the ecosystem services provided by resilient landscapes that support sustainable livelihoods. In doing so, the objective of strengthening resiliency to anticipated climate impacts will be embedded into FLR planning and priority interventions. - The project will prioritize investments in climate-smart ER/SLM/SFM systems, technologies and species/varieties that CC scenarios for Madagascar consider the best climate-adapted to the target landscapes. Additional diversification interventions in ecological restoration and SLM/SFM production systems will strengthen producers? resilience.	PMU, IPs, Research centres, KMCC

The private sector is reluctant to invest in the targeted VC commodities and POs due to lack of information, experience, and un-conductive framework for sustainable VC market development.	L	L	-A key emphasis of Outcome 2.1 and Outcome 3.1 will be to strengthen direct commercial agreements between coffee, rice/legume and NTFP VC actors in the target landscapes and national and international buyer companies dealing with ethic and green market segments, so that project investments in training, coaching and assets for the production and marketing of high-quality commodities result in favourable conditions for solid contract agreements with national and international companies. -Output 3.1.3 will support long-term financing through PPP for a PES project involving zero-deforestation shade coffee intercropping carbon program, and through campaigns targeting consumers and international buyers willing to financially support the conservation of endemic coffee resources in Madagascar.	PMU, SFCC, national & int. coffee, rice, legume and NTFP buyers & tourism sector operators, CMCC, PCP-Riz, and other targeted platforms.
Project management risks such as delays, overspending, lack of coordination	M	L	The PMU will be composed of qualified personnel. Oversight by implementing partners, presence in targeted landscapes and well-established processes and monitoring activities will favor an early identification of issues that may hinder project implementation.	PMU, FAO

The COVID-19 crisis extends over time and has operational impacts on the implementation and institutional/governance arrangements of the project.	M	L	-Mitigate social distancing requirements by enhancing IT support and funding. -Review and adjust implementation and stakeholder engagement arrangements to compensate staff shortages, reorientation of institutional priorities and social distancing. -Adjust stakeholders? engagement plans, adopt higher flexibility and adaptive management and use remote communication whenever possible.	PMU, MEDD, MINAE, IPs

Project strategy towards COVID-19 risk:

The COVID-19 pandemic had a significant impact in project design and will represent a major challenge in project implementation. There is negative feedback between tropical deforestation, CC and BD loss, that has serious repercussions, including many that are unpredictable as pandemic crisis. Experts have warned that human encroachment of natural habitats will drive the emergence of further zoonotic diseases, as pathogens that historically did not interact with people can now jump from animals to humans, as seems to be the case of COVID-19. According to the UN Framework for the Immediate Socio-economic Response to COVID-19, the success of pandemic recovery is intimately linked to supporting efforts to arrest ecosystem encroachments and harmful practices, restore degraded ecosystems, close down illegal trade and illegal wet markets, while protecting communities that depend on natural habitats for their food supply and livelihoods.

The project will adopt the *principle of diversification* at all levels (e.g. species diversification in forest restoration and agroforestry interventions; tree-crop-livestock landscape integration; diversification of climate-adaptive crop species/varieties in the sustainable intensification of agriculture production and marketing, and the use of a wide range of multi-purpose forest NTFPs, as a way to diversify livelihood opportunities and enhance food security under lock down situation) as the best strategy to stop and reverse habitat encroachment and BD loss in the target landscapes, increase landscape resilience against climate risks, reduce sources of social vulnerability associated with lack of knowledge, food and economic insecurity, and reinforce the participatory governance of landscape stakeholders, and the capacity of public services and social safety nets to react in times of pandemic crisis. In this sense, the project will address the COVID-19 crisis in a multiple way, responding to the recommendations of the UN Framework for the Immediate Socio-economic Response to COVID-19:

Mainstreaming COVID-19 issues into project interventions

Data gathering and stakeholder analysis for ILMP planning in the three districts: The ILMP/PIA planning LTs will gather data and make a rapid assessment of the socio-economic impact of COVID-19 impact on the stakeholder groups in each landscape. This will help prioritize the target population for each type of investment in the three landscapes, with special focus on the most vulnerable groups requiring inputs and equipment under Procurement Windows. Likewise, the analysis of the impact of COVID-19 on the different stakeholders will help identify the most sensitive groups to food insecurity and prioritize them as main beneficiaries of the project interventions supporting the diversification of agriculture and forest production systems so that they can better cope with lock down situations with job loss or little or no access to food products from outside.

Awareness: the ILMP/PIA participatory process will help increase understanding of the negative feedback between tropical deforestation, CC and BD loss that is behind the COVID-19, or other zoonotic disease risks. It will also help understand the positive effects of the prioritized interventions that enhance sustainable coexistence of agriculture and natural habitats, including through investments in ecological restoration, responsible tenure of SNRM, and diversified green food production and marketing.

Governance: the ILMP/PIA process will follow an interdisciplinary approach, making sure that stakeholders integrate the health perspective and its environmental and socio-economic considerations in the planning process.

Capacity building: the capacity development interventions ? training, FFS/FMLG, technical support ? will help the target groups understand multiple causation ? deforestation, loss of BD, CC ? that is behind zoonotic diseases risks, and how ILMP investments help prevent these risks.

Project investments: integrated ER, SLM, SFM and GVC interventions at the landscape level will help restore healthy and well-connected ecosystems in the target landscapes with a positive global impact in the prevention of a possible outbreak of zoonotic disease risk, while promoting economically viable and socially beneficial land-use options and diversified production systems that help safeguard livelihoods and food and economic security.

Mainstreaming COVID-19 issues into working procedures

The project design has been affected in terms of working procedures, preventing the organization of some field missions and forcing the project partners to organize web meetings with a lower representation of people than expected, although ensuring the representation of all the stakeholders concerned.

The fact that the COVID-19 crisis will continue, at least until a safe and accessible vaccine is available to everyone, will force the project team and partners to define alternative measures regarding: (i) the collection of information and consultations with the stakeholders involved, (ii) the organization of teamwork, working meetings, workshops, training, and visits to / from other countries involved in the programme, (iii) the provision of technical assistance from national and international experts, and (iv) the community-based participation and relationships among members of local communities, and among members of producer organizations, market-based platforms, etc. In this sense, the project team and its partners should define the rules of the game that best adapt to the conditions of COVID-19 during the IW. Specifically, the project could define the following types of alternatives to work procedures:

The meetings and workshops will be carried out electronically through online systems, ensuring a minimum representation of all interested stakeholder groups. To the extent possible and depending on changes in the GoM regulations on limitations on the number of people who can meet and on the movement of people within / outside the country and within / outside the target regions, the project will try to group the maximum number of people legally possible in a common space, to minimize the problems derived from virtual meetings with multiple people. The project team will request the respect of all legal measures established by the government when people gather, such as a mask, hand washing, safety distance, ventilation of the meeting space, maximum meeting time, etc.

Technical assistance and training may make use of alternative communication tools adapted to the different target audiences. In the case of literate people, the project may organize web training programmes on the different ER/SLM/SFM/SVC topics identified as priority ones in the landscape plans. Representatives of producer organizations, public institutions, NGO, research, and other relevant organizations may be involved in national and international web training activities, and participate in life sessions to answer questions to the course students and provide additional information.

In the case of illiterate people, the project team, assisted by the hired experts, will develop other tools such as the production of short very practical videos with images that describe how to implement different ER, SLM, SFM and SVC interventions. The videos can be sent through mobile phones to practitioners to use in their daily work. Likewise, the project team may hire a communication expert to periodically visit the field and make short videos on the different stages of implementation of ER / SLM / SFM / SVC actions, so that they can be sent to the experts to remotely analyse the effectiveness of the actions undertaken by the project beneficiaries and prepare new additional short videos that help to correct errors or improve execution in the field.

The project team and partners will raise awareness among local community members, producers? organizations participating in the learning groups, and VC platform members, about COVID-19 risks and

the official measures established to prevent transmission of the virus. Trainers and facilitators will agree with practitioners about meeting and coworking opportunities that meet the governmental COVID-19 protocols. Practitioners will benefit from the alternative learning and technical support defined in the previous point.

The project team and partners will raise awareness among local community members, producers? organizations participating in FFS, and value chain members, about Covid19 risks and the official measures established to prevent transmission of the virus.

Category	***Risks***	***Measures***
Implications at national level		
Short to medium term	? Reduced financial (co-financing) support from Government, development partners, and private sector, due to limited overall funding availability resulting from the COVID-19-related economic downturn, and/or the reorientation of available funding to actions directly related to COVID-19 ? Government expenditure and prioritization of different programs and sectors, including agriculture, food security and natural resources might change.	This risk is considered low as all the co-financing letters have been obtained in late 2021, so after almost 2 years of COVID crisis, therefore partners already had a good idea of the potential impact of COVID 19. ? If there are changes in co-financing, then partners will work to seek alternative options for co-financing and ensure continuity of resource allocation to ongoing initiatives in project target areas. ? It is anticipated that the project scope will help to support the Government?s response to COVID-19 through its focus on food security and livelihoods diversification of vulnerable communities. ? Project activities and target locations within landscapes will be further discussed with the Government to ensure that emerging priorities and responses, as a result of the pandemic, are well reflected.
Implications for project activities (on the ground)		
Short to medium term	? Closure of offices, transport etc. will delay launch of project and its implementation.	? It is possible that periodic closures of transport and offices as well as restrictions on organizing meetings/ trainings with large number of people will impact project implementation. The fact that the project already involves local facilitators / work with local partners will ensure that some work can continue on the ground. Detailed planning will be done with the government operational partners to mobilize their field offices and others and the project will ensure that all recommended safe practice are followed by the project team and by communities where the project is working.

Short to medium term	? Potential or partial disruption of food system supply chains, such as logistics ? Increased losses and spoilage in high value commodities/ perishables ? Disruption of demand for products and markets, due to temporary closure of hotels and restaurants	? Provide advice to farmers and government to meet immediate food needs ? Conduct socio-economic impact assessment (as part of baseline assessment) to inform the project design and implementation ? Ensure close collaboration with private sector entities and logistic companies to understand emerging barriers related to the pandemic and establish feasible options ? Support producer organizations in linking with export markets and encourage use of online markets where possible
Short to medium term	? Higher dependence on natural ecosystems and their services, as people who lose employment and income from other sectors depend more on such ecosystems for their livelihoods, thereby increasing pressures	? The project will prioritize work in more impacted areas of the project sites to diversify production and widen the community safety net and resilience as well as strengthen community management and alternative livelihoods.

The project provides a critical opportunity to support vulnerable communities in building a livelihood foundation that not only enhances climate resilience but also provides a response and recovery plan to the COVID-19 pandemic. The project will directly and indirectly support communities so that they continue to undertake preventive behavior to stop COVID-19 infection and spread.

This will include the project staff/ consultants observing recommended practices ? such as not organizing in-person meetings or big gatherings if recommended; minimizing travel between sites.

Project staff and consultants will also be asked to reinforce government and international best practice behaviours in communities where they are working through direct communication, and disseminating government and other produced information/ posters etc.

Moroever, the project will directly contribute towards an inclusive COVID-19 response and a ?longer term? green recovery for smallholder farmers and forest producers, by enabling Forest and Farm Producer Organizations (FFPOs) to sustain their livelihoods during this crisis and enhance the resilience of their businesses.

Specifically the project will build on, and contribute to, the ongoing FFPO support program in Madagascar that received additional funding and extended intervention duration to address the COVID 19 response and recovery,aiming at:

a) Enhanced inclusion and participation of FFPOs in the COVID-19 national response.

- Support the UTCC/ICAT/Environmental Services Plant Material Production Centers to provide appropriate technological services to FFPOs

- Develop the use of electronic purses (via cell phones) to acquire agriculture production inputs to avoid congestion during distributions due to COVID-19 crisis

- Establishment of links with government and other stakeholders to coordinate and harmonize initiatives for short, middle and long-term response to health and economic crisis and green recovery, including prioritized purchase of products from and supply of inputs to local communities

b) Innovative marketing mechanisms and support to ensure FFPOs? business viability

- Development of short-term recovery plans to identify appropriate measures to balance the negative effects of the crisis, for example the enhance the availability of short-cycle seeds (cassava, maize) for food insecure communities

- Train and organize craftsmen in the manufacture of barrier measures and acquire at the FFPO level materials and products to protect against COVID-19 for the benefit of the most vulnerable groups.

- Develop permanent nurseries and train local producers and owners of community forests in production techniques, inventory and management of forests (timber,fuelwood and NTFPs)

- Set up a direct marketing mechanism in adaptation to the COVID-19 health crisis

- Link the FFPOs with online distribution and marketing channels

- Support women's cooperatives on agricultural products on the new processing hygiene procedures adapted to COVID-19

c) Ensuring climate-resilient production during the COVID-19 crisis

- Train members of FFPOs on good climate smart agriculture practices, reforestation techniques and forest landscape restoration through agro-ecological farms schools

- Develop community and village forests as pilots for enhancing carbon storage and provision of ecosystem services through training of FFPOs

- Integrate climate-compatible agro-forestry production systems

- Promote and implement green production methods of charcoal as well as efficient cooking stoves

- Diversification production (crops, small livestock, fisheries and forestry) for a basket of products, focusing on food security to reduce rural poverty and increase resilience to climate change

d) Social services and support for vulnerable FFPO members and communities

- Develop mobile information applications, awareness spots and posters in French and local languages targeted at local communities on COVID-19 and general issues related to the climate and health nexus

- Support the installation, maintenance and training in the use of appropriate equipment, such as solar irrigation kits to vulnerable farm households

- Development of community revolving funds and supporting village savings and loan schemes (?caisse de resilience?) at the level of the FFPO

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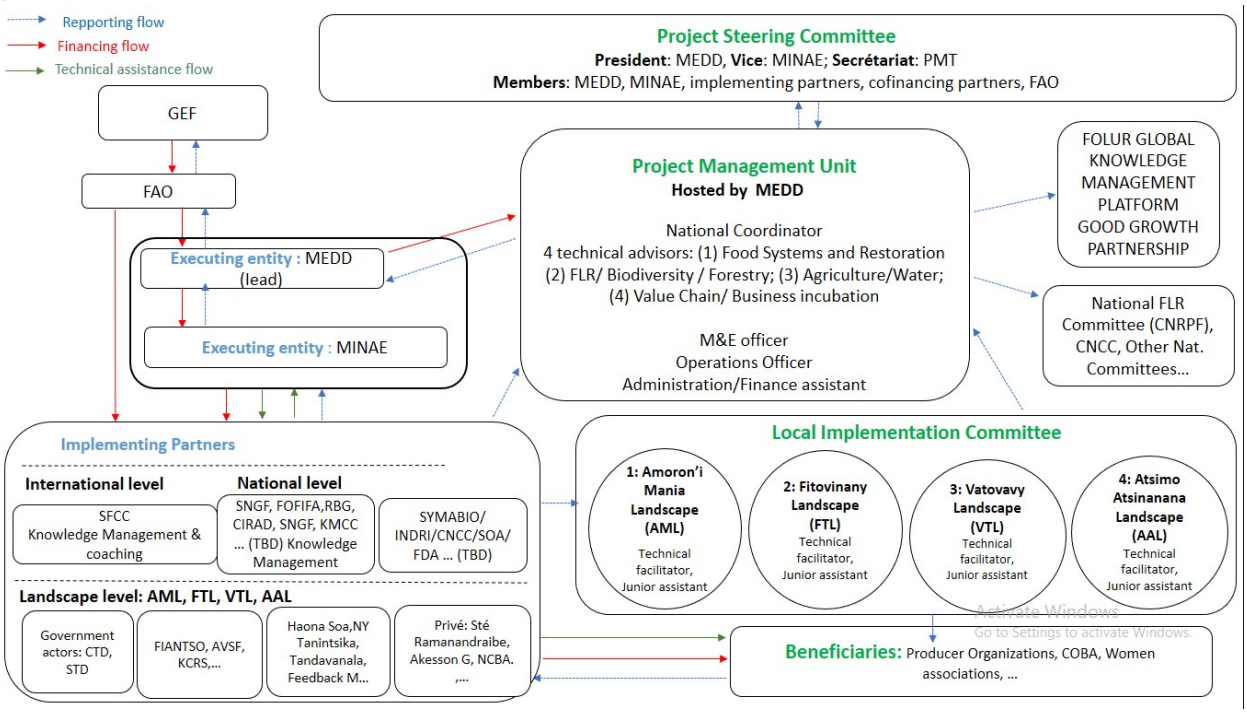
[1] H: High; M: Moderate; L: Low.

6. Institutional Arrangement and Coordination

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

MEDD will have the overall executing and technical responsibility for the project, with FAO providing oversight as GEF Agency as described below. MEDD will act as the lead executing agency and will be responsible for the day-to-day management of project results entrusted to it in full compliance with all terms and conditions of the Operational Partnership Agreement signed with FAO[1]. As OPs of the project the MEDD is responsible and accountable to FAO for the timely implementation of the agreed project results, operational oversight of implementation activities, timely reporting, and for effective use of GEF resources for the intended purposes and in line with FAO and GEF policy requirements. The same will apply for MINAE, which is the MEDD?s first executive partner, with whom FAO will be signing an OPA with.

The project implementation arrangements are illustrated and explained in the diagram and following text:



The government will designate a National Project Director (NPD). Located in MEDD the NPD will be be responsible for coordinating the activities with all the national bodies related to the different project components, as well as with the project partners. He/she will also be responsible for supervising and guiding the Project Coordinator (PC) on the government policies and priorities (see below).

The NPD (or designated person from lead national institution) will chair the PSC which will be the main governing body of the project. The PSC will approve Annual Work Plans and Budgets (AWP/Bs) on a yearly basis and will provide strategic guidance to the Project Management Team and to all executing partners. The PSC will be comprised of representatives from: MEDD, MINAE, representatives of all implementing partners including NGO?s and CSO?s, reps of cofinancing projects and the FAO. The members of the PSC will each assure the role of a Focal Point for the project in their respective agencies. Hence, the project will have a Focal Point in each concerned institution. As Focal Points in their agency, the concerned PSC members will: (i) technically oversee activities in their sector; (ii) ensure a fluid two-way exchange of information and knowledge between their agency and the project; (iii) facilitate coordination and links between the project activities and the work plan of their agency; and (iv) facilitate the provision of co-financing to the project.

A Project Management Unit (PMU) will be established within MEDD. The main functions of the PMU, following the guidance of the Project Steering Committee, are to ensure overall efficient management, coordination, implementation and monitoring of the project through the effective implementation of the AWP/Bs. The PMU will be composed of a National Project Coordinator (NPC) who will work full-time for the project lifetime.

The NPC (see below) will be the Secretary to the PSC. The PSC will meet at least twice per year to ensure: i) Oversight and assurance of technical quality of outputs; ii) Close linkages between the

project and other ongoing projects and programmes relevant to the project; iii) Timely availability and effectiveness of co-financing support; iv) Sustainability of key project outcomes, including up-scaling and replication; v) Effective coordination of government partner work under this project; vi) Approval of the six-monthly Project Progress and Financial Reports, the Annual Work Plan and Budget; vii) Making by consensus, management decisions when guidance is required by the NPC of the PMU.

The NPC will be in charge of daily implementation, management, administration and technical supervision of the project, on behalf of the Operational partner and within the framework delineated by the PSC. S/he will be responsible, among others, for:

i) Coordination with relevant initiatives;

ii) Ensuring a high level of collaboration among participating institutions and organizations at the national and local levels;

iii) Ensuring compliance with all Operational Partners Agreement (OPA) provisions during the implementation, including on timely reporting and financial management;

iv) Coordination and close monitoring of the implementation of project activities;

v) Tracking the project?s progress and ensuring timely delivery of inputs and outputs;

vi) Providing technical support and assessing the outputs of the project national consultants hired with GEF funds, as well as the products generated in the implementation of the project,;

vii) Approving and managing requests for provision of financial resources using provided format in OPA annexes;

viii) Monitoring financial resources and accounting to ensure accuracy and reliability of financial reports;

ix) Ensuring timely preparation and submission of requests for funds, financial and progress reports to FAO as per OPA reporting requirements;

x) Maintaining documentation and evidence that describes the proper and prudent use of project resources as per OPA provisions, including making available this supporting documentation to FAO and designated auditors when requested;

xi) Implementing and managing the project?s monitoring and communications plans;

xii) Organizing project workshops and meetings to monitor progress and preparing the Annual Budget and Work Plan;

xiii) Submitting the six-monthly Project Progress Reports (PPRs) with the AWP/B to the PSC and FAO;

xiv) Preparing the first draft of the Project Implementation Review (PIR);

xv) Supporting the organization of the mid-term and final evaluations in close coordination with the FAO Budget Holder and the FAO Independent Office of Evaluation (OED);

xvi) Submitting the OP six-monthly technical and financial reports to FAO and facilitate the information exchange between the OP and FAO, if needed;

xvii) Informing the PSC and FAO of any delays and difficulties as they arise during the implementation to ensure timely corrective measure and support.

In addition, the PMU will include:

1 Food Systems and Restoration Technical Specialist (part time/international/recruited by MEDD): The Technical Specialist (TS) will be recruited by MEDD to provide substantial technical inputs to the implementation of the Project. The TS will be responsible for provide technical support specifically on integrated landscape and FLR approach and ensure that latest and best international (and national) practices and approaches are reflected in the design and planning of project activities.

3 Technical Advisory Experts (part-time positions): (1) FLR/Biodiversity/Forestry (MEDD); (2) Agriculture/Water/Climate Change (MINAE); (3) Business/VC development (MEDD); (4) Gender/Social (MINAE); (5) Policy & Governance (MEDD). They will provide technical leadership assistance on the planning, implementation and monitoring of the project components and thematic areas. In concrete, they will ensure: (i) the availability and use of cutting-edge knowledge from suitable innovative systems and technologies in the planning and implementation of project activities; (ii) the development and adoption of effective knowledge management, sharing and transfer mechanisms for the capacity development and field implementation interventions; (iii) continuous technical advice and support to project beneficiaries and partners in the thematic areas under their responsibility; (iv) assists in the analysis of monitoring results, development of lessons learned and best practices, preparation of various communication outputs (e.g. background papers, analysis, substantial sections of reports and studies, inputs to publications, video scripts), review of relevant documents and reports; (v) contribute to consultative and other meetings, conferences, including proposals for agenda topics, identifying participants, preparation of documents and presentations on assigned topics/activities; (vi) participation in activities such as structuring of training workshops, seminars; (vii) lead field missions, including provision of guidance to external consultants, government officials and other parties; (viii) advises on the development of policies and strategies, as well as protocols and guidelines for landscape plans and specific domains related to the project objective.

Administrative/Procurement Assistant: national, full time, recruited by MEDD, he/she will provide daily admin and operations support and ensure the effective planning, coordination and prioritization of daily tasks and responsibilities in order to achieve the overall team and PMU objectives. He/she will oversee the efficient execution and delivery of the full range of administrative/financial/procurement services in support of the project activities, including budget preparation, contract management, financial accounting, internal control, travel management and implementation monitoring as outlined in MEDD?s OPA.

Operations Officer (full time, recruited by MINAE). He/she will plan and manage all the hiring and procurement activities as outlined in MINAE?s OPA.

M&E Officer (part-time, recruited by MEDD). He/she will: (i) elaborate a sound M&E framework for the project, based on the project documents and the scope and type of activities carried out; (ii)

prepare and implement the M&E action plan and report on progress made towards achieving the project outputs and project outcomes; (iii) recommend the modalities of implementation of M&E activities, roles of the LP members, PMU staff and partners; (iv) develop monitoring and impact indicators for the project success; (v) ensure that indicators are gender sensitive (disaggregated by age and sex) and data and information are collected and analyzed in gender sensitive way; (vi) monitor, gather data and analyze/report on the sustainability of the projects? results and impact (assessment of lessons learned); (vii) recommend criteria for the selection of beneficiaries for project activities based on findings from needs assessments, and monitor that the beneficiary identification and selection processes follow these criteria and are in line with FAO and GEF policies; (viii) support the development of a communication and knowledge management strategy for the project; (ix) provide required inputs to project reports; (x) assist the project personnel in the use of M&E tools; (xi) provide any relevant technical training to the PMU, LP members and other project actors on M&E and reporting related matters.

Please see Prodoc Annex M for detailed TORs.

6.b Coordination with other relevant GEF-financed projects and other initiatives.

The following projects are not considered as potential co-financing, but they provide important lessons learned and opportunities to establish synergies with the project:

The recently FAO/GEF project ?Biodiversity Conservation, Restoration and Integrated Sustainable Development of Mangoky sub-watersheds **(TEFIALA) project 2022-20127**, has the objective to ?Improve ecosystems services, sustainable intensification and biodiversity conservation in degraded forests and landscapes in Southern Madagascar through wide-scale implementation of forest and landscape restoration (FLR)?. The project has four components: C1) Strengthened Enabling Environment for FLR and biodiversity mainstreaming; C2) Widescale implementation of the FLR priorities responding in an integrated manner to BD conservation, sustainable intensification and sustainable livelihoods? needs; C3) Increased investment for improved FLR, BD conservation and livelihoods diversification; C4) Project monitoring, evaluation and knowledge management. Along with the fact that part of Tefiala is carried out in the eastern region of the country, close to the target regions of the project, both projects share objectives and the possibility of exchanging knowledge and experiences in ILMP, FLR and VC implementation, and the piloting of sustainable financing opportunities.

The National-wide **UNEP/GEF Coketes 5Y Project** *(Conservation of Key ?Conservation of Key Threatened, Endemic and Economically Valuable Species?)* with the objective to promote the conservation and sustainable use of biodiversity using the species approach, complementing the ecosystem approach, by developing, implementing and disseminating participatory local strategies on key endemic, threatened and economically valuable species. The project has achieved the following results:

? Development and update of 13 PA management plans; improvement of knowledge of the conservation status of target species and trained conservation staff and community members participating in conservation actions;

? About 9,000 people aware of conservation problems, needs and solutions through awareness raising campaigns;

? Concrete conservation actions implemented (monitoring, patrols, habitat condition improvements, community awareness, setting up nurseries, monitoring and seed collection, wildlings, reforestation, restoration and enrichment and firefighting);

? 16 incentive projects to improve community incomes and contribute to species conservation implemented.

The GEF APAA 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 BD 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 in collaboration with the TM 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 BD conservation needs and prescribes land uses with a view to mitigate threats. Second, the project will work with local communities to strengthen conservation on communal lands, addressing existing threats to BD linked to artisanal livelihoods and subsistence activities. The project will work with communities to establish and operationalize multi-use ?Community Conservation Areas? (CCAs), 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 (IUCN category V) will receive temporary protection in 2020 and, in line with the Region?s commitment to reforest 4000 ha each year, the project will promote agroforestry development to enhance livelihoods and protect the watershed areas. The Tefiala project will build on the lessons provided by APAA on integrated landscape planning in Atsimo Andrefana region and the establishment of multi-purpose CCAs to facilitate the FLR planning process in the three targeted sub-watersheds, and the incorporation of the multiple benefits provided by the defined ecological restoration, sustainable intensification and BD conservation priorities into COBA plans.

?Support programme on the Management of the Environment? (PAGE/GIZ, 2015-2020). The project aims to enhance the protection, sustainable management and resilience to CC impacts of natural resources in and around protected areas, including in the region of Atsimo Andrefana. The project is built around 5 components: (i) improve conditions to protect and sustainable manage natural resources by the potential stakeholders; (ii) improve framework to improve and professionalize the VCs 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 CC 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 Tefiala project will build on the experience and networks established to reinforce capacity towards improved localized governance and support the local communities to elaborate and implement Communal Territorial Management Plans (SAC) and GVC, taking into considerations BD conservation and land restoration concerns.

?Community-based action for sustainable lemur conservation in the Ambositra Vondrozo Forest Corridor (COFAV)? (IUCN, 2019-2021). This project will empower COFAV communities to conserve their lemurs through a multifaceted approach that builds local capacity, addresses livelihoods concerns and promotes stakeholder collaboration and communication. Numerous

community-based information-gathering and awareness-raising initiatives will be combined with the promotion of alternative sources of income and protein, and the capacity-building of Community Forest Management associations. Support will be given to forest inhabitants to make their lifestyles more sustainable. Agricultural production on deforested land will be boosted through training on improved techniques, with 6 community tree nurseries operational to provide saplings for agroforestry, reforestation and forest restoration. The Tefiala project will build on the expertise built in local governance and the restoration of natural habitats with the multipurpose objective to enhance BD (nursery production and planting of endemic tree species on which lemur species populations depend) and increase local livelihoods around NTFPs.

The project will coordinate efforts with other ongoing GEF and non-GEF initiatives in Madagascar to ensure synergies are generated, particularly with the projects mentioned below:

Initiative	Objectives/Brief description of how it is linked to the project	Synergies
Conservation and Improvement of Ecosystem Services for the Atsinanana Region through Agroecology and the Promotion of Sustainable Energy Production UNEP/GEF 2018-2022	Optimise sustainable land use management, BD conservation, renewable HH energy security and CC 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	Strengthen the long-term conservation and sustainable use of BD in the northwestern landscape of Madagascar.	Build on project?s experiences through knowledge sharing events to be organized under the umbrella of the NFLRC.

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.	Build on project?s experiences on integrated landscape planning. The mid-term evaluation of this WB/GEF project and published ILM planning tools represented a key tool during the PPG phase to adapt the ILM/FLR planning approaches with Communes/COBAs in the targeted watersheds.
Programme d'appui au financement de l'agriculture et aux fili?res inclusives dans le sud de Madagascar (AFAFI-SUD (11e FED, 2019-2024)	To sustainably 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.
FFF Phase II Climate Resilient Landscapes and Improved Livelihoods (FAO, 2018-2022)	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.
Forest4Future: Global project on FLR and good governance in the forest sector (GIZ/BMZ)	It deals with the achievement of national FLR goals related to the Bonn Challenge, and other European and international processes to improve governance in the forest sector (FLEGT). Reforestation measures are to be implemented on an area of 2,000 ha in Ethiopia, Madagascar and Togo. Furthermore, income from the use of forests and tree-rich productive landscapes will increase by an average of 10 percent for 1,700 HHs (women and young focus) in the target regions of Ethiopia, Madagascar, Togo, C?te d?Ivoire, and Laos.	Information will be shared, and project will build on experience/expertise of ongoing project to support business incubation and cooperative capacity development.

Coordination with these initiatives will focus on exchanging lessons learned and sharing technical expertise and will be established through partnership agreements and, whenever is feasible, on shared working actions. The fact that most of these projects are connected to the NFLRC, a major institutional partner of Tefiala project, will facilitate coordination and interaction. During the PPG

phase, key informants of some of the mentioned projects were consulted and invited to participate to project design workshops in order to identify synergies, and proposed recommendations were incorporated in project designed.

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[1] It should be noted that the identified Operational Partner(s) or OP, results to be implemented by the OP and budgets to be transferred to the OP are non-binding and may change due to FAO internal partnership and agreement procedures which have not yet been concluded at the time of submission

7. Consistency with National Priorities

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

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

GoM has demonstrated strong political will for FLR as an approach to promoting ILMP processes that jointly supporting BD conservation, community-based sustainable natural resources management, and sustainable intensification of production systems delivering food and economic security to vulnerable population. The project is strongly aligned to, and consistent with the following national policy frameworks and priorities:

The project is fully aligned with the **National Strategy on the Restoration of Forest Landscapes and Green Infrastructures (2017 -2030)**. FAO has supported the GoM in the development of this strategy. The National FLR strategy has identified land degradation hotspots in the country and priority intervention types to restore transform large areas of deforested and degraded lands into resilient and multifunctional landscapes while contributing to the local and national economy. The strategy responds to the national commitment to AFR100 to restoring 4 million ha by 2030.

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 on LDN which was adopted by the General Assembly of the United Nations. The GoM committed to **achieving 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 the table below:

LDN specific targets and measures

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 SLM practices
Mobilize financial incentives to promote research on SLM linked to BD and CC

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).*

INDC Priority actions	**Adaptation**	**Mitigation**
Facilitate access to energy by promoting renewable (hydraulic and solar, from current 39 percent up to 79 percent) and alternative energies		
Improve energy efficiency, including the adoption of improved stoves by 50 percent HHs by 2030		
Large scale dissemination of intensive/improved rice farming techniques		

Large scale implementation of CA and other climate-smart agriculture systems and technologies (e.g. combination of watershed management, selected/adapted varieties, locally-produced compost, rehabilitation of hydro-agriculture infrastructures?)		
Large scale adoption of agroforestry, including tree crops dissemination (5,000 ha/yr as from 2018)		
Large scale reforestation for sustainable timber production (reduction of timber extraction) and		
Restoration of native forests & mangroves for species conservation and habitat connectivity	55,000 ha by 2030	
Promotion of REDD+		
Enhanced forest and grassland monitoring		
Promotion of biogas from waste		
Identification and sustainable management of climate refuge areas in/outside protected areas		
Multi-hazard early warning systems in place		
Finalization of national framework for meteorological services		
CC Adaptation mainstreaming in all strategic policy documents and its application in sectoral policies		
Intensive awareness raising campaigns		
Evaluation of links between CC and vector-borne diseases/malaria/other and identification of remedial/corrective measures		

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 BD will be eliminated or gradually reduced to minimize negative impacts. while positive incentives for conservation and sustainable use of BD and natural resources will be developed and applied
Objective 4: In 2025, the GoM 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 BD conservation
Objective 11: In 2025, 10 percent of terrestrial ecosystems and 15 percent of coastal and marine areas , especially the areas of particular importance for BD 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 CC are strengthened, including restoration of at least 15 percent 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 BD and their contribution to conservation are respected , preserved and maintained
Objective19 : In 2025, knowledge and basic science related to BD , 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:

National REDD+ Strategy

Strategic Objective 1: Improve political, legal, institutional and financial framework, necessary for good governance of the resources and the implementation of REDD+
Strategic Objective 2: Promote land use planning and utilization
Strategic Objective 3: Promote sustainable management and valorisation of forest resources
Strategic Objective 4: Improve living conditions of local communities through the implementation of alternatives to unsustainable agricultural practices and utilization of fuel wood

The **National Energy Wood Supply Strategy 2017-2030 (SNABE)** is the NPE implementation instrument to achieve a coherent wood energy supply system in Madagascar. It has three objectives: 1) the protection and sustainable management of wood resources; 2) a stable and sufficient supply of good quality and less costly wood energy; 3) balancing supply and demand through supply chain improvement at the production, processing and marketing levels, and demand reduction by promoting improved wood stoves and other energy sources. SNABE is aware of the higher vulnerability of women-led HHs, so it will help to improve women's access to information, planning and decision-making processes regarding wood energy supply.

The **Policy for the Development of Watersheds and Irrigated Perimeters (DWIP).** The overall objective of the DWIP policy is the sustainable improvement of the living conditions and incomes of rural populations in the watersheds and a better valuation and preservation of natural resources for the benefit of the country. In this context, the implementation of FLR is articulated with two DWIP axis: (i) "Rapid and sustainable intensification of production", offering conditions to producers to be able to increase their production in a profitable and sustainable way; (ii) "infrastructure sustainability and rational use of natural resources ".

The Policies and strategies of the GoM call for locally-anchored inclusive growth *(**National Development Plan, 2015-2019**)*, based on natural capital valorisation 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.

In Madagascar, CBNRM occupied centre stage in the conservation agenda during the first NEAP (between 1990 and 1995), which led to the creation of **GELOSE GCF** law that was introduced in 2000 through an implementation decree of the forest law of 1997. The project is consistent with GELOSE and GCF and will support the development of accompanying implementation measures to support a more conducive and harmonized natural resources management transfer, compliant with the FLR landscape priorities.

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 ??Sch?mas d?Am?nagement 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 percent 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 VC.

8. Knowledge Management

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

The project has taken on board initial lessons learned by the GEF-6 Integrated Approach Pilot (IAP) for commodities, which served as an important precursor to development of the FOLUR program. A review of the IAP design process conducted by GEF?s Independent Evaluation Office in 2018 noted the following characteristics of the Commodities IAP project, which have been noted and, in many cases, followed, in formulating the present project:

? The potential to support multiple Conventions through an integrated programming approach.

? The importance of aligning with specific Government priorities.

? An emphasis on knowledge exchange through dedicated platforms for collaborative learning: this principle is followed both by the project itself (the project?s KM & Communication Strategy and landscape-level platforms will support learning and dissemination) as well as through the FOLUR IP Global Knowledge to Action Platform (K2A) as a whole and via the role of the ?hub project?.

? The importance of ?broader adoption? a.k.a. replication and uptake.

? The value of drawing on the comparative strengths of multiple agencies and other experienced think tanks: The increased requirement for planning and coordination is also noted here.

? The central importance of a landscape approach.

The key to the project?s ultimate effectiveness will lie not merely in the proximate, site-level impacts of its landscape-level work, but rather in its emphasis on ensuring lesson learning, knowledge building and dissemination both up and down the spatial scale from farm to landscape to national to global in order to

broaden and accelerate impact. Overall, the approach will ensure both that project activities are imbued with cutting-edge global knowledge and that new knowledge generated by the project is amplified and replicated through landscape, regional and national-level platforms. Knowledge flows to and from the project will take place via close linkages to AFR100, CFI and the FOLUR Global Platform (GP), as well as other global fora, and will occur frequently throughout the project implementation period. Specific aspects of collaboration with the FOLUR Global Platform are highlighted in the table below.

K2A Global Platform Activities	**Madagascar Child Project Responsibilities**
? Conduct communication and outreach to manage and expand public outreach on FOLUR issues.	? Share updates regularly with K2A comms officer. ? Use comms and outreach materials for in-country engagement. ? Participate in periodic needs assessment surveys and FOLUR IP Annual Meetings to guide knowledge and outreach product development.
? Focused KM on prioritized issues and gaps.	? Identify opportunities for communications support on gender and private sector engagement based on local and national context. ? Review and feedback on development of guidance notes and integrate into implementation.
? Engage strategically in events to strengthen linkages across partners and scales.	? Participate in regional and global events in coordination with K2A Platform. ? Share suggestions for upcoming events where GP or CP participation can add value regionally / globally.
? Document lessons learned and project achievements; produce and exchange Knowledge Products.	? Develop, consult, edit & refine brief documents for lessons learned. ? Regularly exchange information about lessons learned and provide feedback on relevance/format of knowledge products through CoPs, plus regular dialogue channels. ? Document and share lessons, insights, achievements regularly.
? Ensure coordinated communications and outreach strategy and overall narrative of impact.	? Train relevant staff in comms and branding guidelines. Cross link websites. Follow FOLUR social media channels. ? Relay to GP comms officer proactively about any project press coverage to amplify or mitigate. ? Use CP communications specialist or journalist to create achievement stories regularly.

The GEF Implementing Agencies are the key focal point for liaison between the FOLUR Global Platform and country projects like the Madagascar CP. This function will be especially important in the area of knowledge management and here UNDP will play a critical role. UNDP?s contribution will derive from its expertise and capacities centered in the Green Commodities Program (GCP), as well as its lead role in the Good Growth Partnership (GGP). The project intends to make extensive use of the Green Commodities Community established under the GGP and its approach to learning through sharing. GCP will further help to advise the PMU on how best to take advantage of the FOLUR Global Platform and its many opportunities for learning and collaboration.

The project is designed to gather and share lessons systematically and effectively?with a special emphasis on developing and disseminating knowledge and innovation. Lessons generated within the landscapes will be shared at regional and national levels?the latter via the NFLRC, CNCC, PCP-Riz Platform, and partner Ministries. The project will collaborate closely with MEDD and the NFLRC, responsible for the development and dissemination of knowledge products, tools and approaches, and is actively engaged in the participatory identification of lessons learned and knowledge sharing with stakeholders at the regional and national levels. Finally, the FOLUR global platform and various sustainable coffee and rice platforms will be leveraged to ensure that success stories in particular will be shared at global level.

Given that the FOLUR IP as a whole will have projects in over 20 countries, there will be substantial opportunities for sharing lessons learned by the project with participating countries facing similar and/or analogous challenges, including at the sub-regional and regional level, like Kenya and Ethiopia for coffee and Tanzania and the Sustainable Rice Landscape countries for rice. The Program will thus open the door to south-south co-operation. Success stories will figure prominently among the lessons being shared, with the goal of ensuring extensive uptake and replication among participating countries.

Mechanisms for project lesson learning and sharing will include recruitment of highly qualified short- and medium-term experts delivering technical support and coherence within the thematic technical areas being addressed by the project. Experts will deliver cutting-edge tools and technical support services to pilot landscapes, while capturing and drawing connections between emerging lessons in the landscapes and elsewhere nationally. The PMU and hired experts will also nurture linkages with key regional and global partners, while helping to bring project lessons to international fora.

Co-ordination and dialogue mechanisms, including the landscape-level platforms, NFLRC, CNCC and PCP-Riz at national level and the FOLUR Global Platform globally, will each play a role in disseminating knowledge and learning generated by the project. In particular, coffee and rice/legume VC platforms being supported under Outcome 2.1 and firewood/NTFP VC platforms under Outcome 3.1, will serve as tools for gathering and disseminating lessons and encouraging their uptake. Sharing and gathering of lessons?including those learned separately by project partners and stakeholders?will take place via multi-stakeholder technical workshops, which will be held under the auspices of the ILMP/PIA platforms. These workshops will provide opportunities for individuals and organisations to share their experiences and best practices regarding what has worked, for whom and at what cost across the landscapes. These will include both cross-cutting workshops as well as ones focused on specific technical issues.

A summary budget for knowledge management is shown below.

Outputs	Cost categories	Description	Budgeted amount
Output 4.1: Knowledge shared at local and international levels (through the FOLUR global platform) and close monitoring of the project	Personnel	FLR Chief Technical Adviser, Project Coordinator, Four technical and four junior facilitators (FLR/BD, coffee and rice business dev, agriculture/water, gender/social, Policy/governance) will lead the process of dissemination of project-generated knowledge and lessons learned (10% of their time)	33,000
	Contracts	LoA contract will be given for Communication and KM, Production of Knowledge Management materials (meetings, publications, videos, media news, gingles, etc). Please see details in table below.	132,000
	Training	National FLR Committee members' periodical meetings (2meetings/year); PSC meetings (Inception and final workshops included); Inception and SC Landscape workshops;	21,000
	Non-Expendable procurement	Vehicles (4 4x4 cars + mantainance) Vehicles (46 motobikes: 1 x 46 community facilitators)	208,600
Output 4.2: Participation of project team and partners in knowledge management and other activities of the FOLUR Global Platform, as well as in relevant international cocoa-related events	Personnel	FLR Chief Technical Adviser, Project Coordinator, Four technical and four junior facilitators (FLR/BD, coffee and rice business dev, agriculture/water, gender/social, Policy/governance) will lead the process of dissemination of project-generated knowledge and lessons learned (10% of their time) Community Engagement Facilitators: 23 men +23 women facilitators	68,880
	Training	National FLR Committee members' periodical meetings (2meetings/year); Inception and SC Landscape workshops;	26,000
	Non-Expendable procurement	Vehicles (4 4x4 cars + mantainance)	10,800
Total			500,280

The Knowledge Management contract's (service provider) deliverables will be determined through a survey to be implemented in Year 1 in close coordination with the FOLUR Global Platform. Key KM deliverable will likely include:

Key KM Deliverables	**Estimated Budget**
KM needs assessment surveys to guide knowledge and outreach product development. - Y1	4,000
A ?report? on the factors underpinning landscape-level readiness for sustainable coffee and rice/legume production and associated project impacts. The report will help to increase knowledge?based on actual experience?of the most important levers for effecting change, most notably in deforestation rates, but also in other key impact indicators, with an emphasis on measuring contributions to SDGs. - This report will be available by Y2 of the project.	6,000
PIP materials and 8 Policy Briefs ?2 per year as from Y2	15,000
Lessons Learned /Innovation and replication briefs on coffee and rice/legume VC ? Y3-4	20,000
Nursery and seedbank production protocols ? Y2-3	10,000
FLR planning and ecological restoration guidelines ? Y3-4	20,000
Guidelines for the conservation and management of genetic resources ? Y2	8,000
Audiovisual materials (e.g. videos, posters, etc.) for illiterate people on SLM/SFM/ER adaptive management practices ? Y3-4	15,000
Six knowledge sharing products at international networking events - Y3-4	12,000
Madagascar CP web site and blog posting - Ongoing	22,000
Total (excluding staff time and travels)	**132,000**

9. Monitoring and Evaluation

Describe the budgeted M and E plan

Oversight

Project oversight will be carried out by the PSC, the FAO GEF Coordination Unit and relevant Technical Units in HQ. Oversight will ensure that: (i) project outputs are produced in accordance with the project

results framework and leading to the achievement of project outcomes; (ii) project outcomes are leading to the achievement of the project objective; (iii) risks are continuously identified and monitored and appropriate mitigation strategies are applied; and (iv) agreed project global environmental benefits/ adaptation benefits are being delivered. The FAO GEF Unit and HQ Technical Units will provide oversight of GEF financed activities, outputs and outcomes largely through the annual Project Implementation Reports (PIRs), periodic backstopping and supervision missions.

The project will ensure transparency in the preparation, conduct, reporting and evaluation of its activities. This includes full disclosure of all non-confidential information, and consultation with major groups and representatives of local communities. The disclosure of information shall be ensured through posting on websites and dissemination of findings through knowledge products and events. Project reports will be broadly and freely shared, and findings and lessons learned made available.

Monitoring

Project monitoring will be carried out by the PMU and the FAO BH. Project performance will be monitored using the project results matrix (Annex A1), including indicators (baseline and targets) and AWP/Bs. The monitoring and evaluation system will also facilitate learning and replication of the project?s results and lessons and feed the project?s ambitious knowledge management strategy including the Global FOLUR Platform.

At inception, the results matrix will be reviewed to finalize identification of: i) outputs ii) indicators; and iii) missing baseline information and targets. A detailed M&E plan, which builds on the results matrix and defines specific requirements for each indicator (data collection methods, frequency, responsibilities for data collection and analysis, etc.) will also be developed during project inception by the M&E specialist hired by the PMU. The project will ensure transparency in the preparation, conduct, reporting and evaluation of its activities. This includes full disclosure of all non-confidential information, and consultation with major groups and representatives of local communities. The disclosure of information shall be ensured through posting on websites and dissemination of findings through knowledge products and events. Project reports will be broadly and freely shared, and findings and lessons learned made available.

Reporting

Specific reports that will be prepared under the M&E programme are: (i) Project inception report; (ii) Annual Work Plan and Budget (AWPB); (iii) PPRs; (iv) annual Project Implementation Review (PIR); (v) Technical Reports; (vi) co-financing reports; and (vii) Terminal Report.

Project Inception Report. The PMU will prepare a draft project inception report in consultation with the LTO, BH and other project partners. Elements of this report should be discussed during the Project IW and the report subsequently finalized. The report will include: (i) a narrative on the institutional roles and responsibilities and coordinating action of project partners; (ii) progress to date on project establishment and start-up activities, and (iii) an update of any changed external conditions that may affect project implementation. It will also include a detailed first year AWPB and a detailed project monitoring plan. The draft inception report will be circulated to the PSC for review and comments before its finalization, no later than one month after project start-up. The report should be cleared by the FAO BH, LTO and the FAO GEF Coordination Unit and uploaded in Field Programme Management Information System (FPMIS) by the BH.

Results-based AWP/Bs**.** The draft of the first AWP/Bs will be prepared by the PMU in consultation with the FAO Project Task Force (PTF) and reviewed at the project IW. The IW inputs will be incorporated and the PMU will submit a final draft AWPB within two weeks of the IW to the BH. For subsequent AWPB, the PMU will organize a project progress review and planning meeting for its review. Once comments have been incorporated, the BH will circulate the AWPB to the LTO and the GEF Coordination Unit for comments/clearance prior to uploading in FPMIS by the BH. The AWPB will be linked to the project?s Results Framework indicators so that the project?s work is contributing to the achievement of the indicators. The AWPB will also include detailed activities to be implemented to achieve the project outputs and output targets and divided into quarterly timeframes and targets and milestone dates for output indicators to be achieved during the year. A detailed project budget for the activities to be implemented during the year will also be included together with all monitoring and supervision activities required during the year. The AWPB will be approved by the PSC and uploaded on the FPMIS by the BH.

Project Progress Reports (PPR): PPRs will be prepared by the PMU based on the systematic monitoring of output and outcome indicators identified in the project?s Results Framework. The purpose of the PPR is to identify constraints, problems or bottlenecks that impede timely implementation and to take appropriate remedial action in a timely manner. They will also report on projects risks and implementation of the risk mitigation plan. The PPR will be submitted to the BH and LTO for comments and clearance. The BH will upload the PPR on the FPMIS.

Annual Project Implementation Review (PIR): The LTO (in collaboration with the PMU) will prepare an annual PIR covering the period July (the previous year) through June (current year) to be submitted to the BH and the TCI GEF FLO for review and approval no later than (check each year with GEF Unit but roughly end June/early July each year). The FAO GEF Coordination Unit will submit the PIR to the GEF Secretariat and GEF Evaluation Office as part of the Annual Monitoring Review report of the FAO-GEF portfolio. PIRs will be uploaded on the FPMIS by the TCI GEF Coordination Unit.

Key milestones for the PIR process:

? Early July: the LTOs submit the draft PIRs (after consultations with BHs, project teams) to the GEF Coordination Unit (faogef@fao.org , copying respective GEF Unit officer) for initial review;

? Mid July: GEF Unit responsible officers review main elements of PIR and discuss with LTO as required;

? Early/mid-August: GEF Coordination Unit prepares and finalizes the FAO Summary Tables and sends to the GEF Secretariat by (date is communicated each year by the GEF Secretariat through the FAO GEF Unit;

? September/October: PIRs are finalized. PIRs carefully and thoroughly reviewed by the GEF Coordination Unit and discussed with the LTOs for final review and clearance;

? Mid November: (date to be confirmed by the GEF): the GEF Coordination Unit submits the final PIR reports -cleared by the LTU and approved by the GEF Unit- to the GEF Secretariat and the GEF Independent Evaluation Office.

Technical Reports: Technical reports will be prepared by national, international consultants (partner organizations under LOAs) as part of project outputs and to document and share project outcomes and lessons learned. The drafts of any technical reports will be submitted by the PMU to the BH who will share

it with the LTO. The LTO will be responsible for ensuring appropriate technical review and clearance of the report. The BH will upload the final cleared reports onto the FPMIS. Copies of the technical reports will be distributed to project partners and the PSC as appropriate.

Co-financing Reports: The BH, with support from the PMU, will be responsible for collecting the required information and reporting on co-financing as indicated in the Project Document/CEO Request. The PMU will compile the information received from the Implementing Partner NGOs and transmit it in a timely manner to the LTO and BH. The report, which covers the period 1 July through 30 June, is to be submitted on or before 31 July and will be incorporated into the annual PIR. The format and tables to report on co-financing can be found in the PIR.

Terminal Report: Within two months before the end date of the project, and one month before the Final Evaluation, the PMU will submit to the BH and LTO a draft Terminal Report. The main purpose of the Terminal Report is to give guidance at ministerial or senior government level on the policy decisions required for the follow-up of the project, and to provide the donor with information on how the funds were utilized. The Terminal Report is accordingly a concise account of the main products, results, conclusions and recommendations of the project, without unnecessary background, narrative or technical details. The target readership consists of persons who are not necessarily technical specialists but who need to understand the policy implications of technical findings and needs for insuring sustainability of project results.

Evaluation

For full-sized projects, a Mid-Term Review will be undertaken at project mid-term to review progress and effectiveness of implementation in terms of achieving the project objectives, outcomes and outputs. Findings and recommendations of this review/evaluation will be instrumental for bringing improvement in the overall project design and execution strategy for the remaining period of the project?s term. FAO, under the BH?s responsibility will arrange for the mid-term review in consultation with the project partners. The evaluation will, inter alia:

? review the effectiveness, efficiency and timeliness of project implementation;

? analyse effectiveness of partnership arrangements;

? identify issues requiring decisions and remedial actions;

? propose any mid-course corrections and/or adjustments to the implementation strategy as necessary;

? Highlight technical achievements and lessons learned derived from project design, implementation and management.

The GEF evaluation policy foresees that all medium and large size projects require a separate final evaluation. Such evaluation provides: i) accountability on results, processes, and performance; ii) recommendations to improve the sustainability of the results achieved and iii) lessons learned as an evidence-base for decision-making to be shared with all stakeholders (government, execution agency, other national partners, the GEF and FAO) to improve the performance of future projects.

The BH will be responsible to contact the Regional Evaluation Specialist (RES) within six months prior to the actual completion date (NTE date). The RES will manage the decentralized independent terminal evaluation of this project under the guidance and support of OED and will be responsible for quality

assurance. Independent external evaluators will conduct the terminal evaluation of the project taking into account the ?GEF Guidelines for GEF Agencies in Conducting Terminal Evaluation for Full-sized Projects.? FAO Office of Evaluation (OED) will provide technical assistance throughout the evaluation process, via the OED Decentralized Evaluation Support team ? in particular, it will also give quality assurance feedback on: selection of the external evaluators, Terms of Reference of the evaluation, draft and final report. OED will be responsible for the quality assessment of the terminal evaluation report, including the GEF ratings.

After the completion of the terminal evaluation, the BH will be responsible to prepare the management response to the evaluation within four weeks and share it with national partners, GEF OFP, OED and the FAO-GEF CU.

The evaluations will also assess how the OPA implementation and partnership agreement influenced the achievement and sustainability of results while contributing to enhance capacities of the OP/s. In doing so, the evaluation will consider the brief guidance note and evaluation questions OED has developed in consultation with the OPIM unit.

M&E Plan

Type of M&E Activity	Responsible Parties	Time-frame	Budget
Inception Workshop	PMU in consultation with the LTO, BH, PSC	Within one month after start-up	Project staff time
Project Inception Report	PMU in consultation with the LTO, BH. Report cleared by the FAO BH, LTO and the FAO GEF Coordination Unit and uploaded in FPMIS by the BH.	One month after start-up	Project staff time
Supervision visits	FAO	Annually	Project staff time
PPR	PMU based on the systematic monitoring of output and outcome indicators identified in the project?s Results Framework. The PPR will be submitted to the BH and LTO for comments and clearance. BH to upload the PPR on the FPMIS.	No later than one month after the end of each six-monthly reporting period (30 June and 31 December)	Project staff time

PIR	LTO (in collaboration with the PMU) will prepare an annual PIR covering the period July (the previous year) through June (current year) to be submitted to the BH and the TCI GEF FLO.	August 1, of each reporting year	Project staff time
Co-financing Reports	PMU	On a semi-annual basis, and will be considered as part of the semi-annual PPRs	Project staff time
Technical reports	Project staff and consultants, with peer review as appropriate.	As appropriate	Project staff time + consultant costs
M&E officer	Full time, part of PMU	1 month after project start up	54,000
Execution Capacity Development and ESS Specialist	Full time	1 month after project start up	130,000
Junior facilitators at landscape level (4)	Full time	1 month after project start up	96,000
Inception and Final Workshops	PMU	Project start and Project end	5,000
Mid-term Review	External consultant, FAO BH in consultation with PMU, GEF Coordination Unit and other partners.	During PY3, at mid-term	*30,000

Final evaluation	The BH will be responsible to contact the Regional Evaluation Specialist (RES) within six months prior to the actual completion date (NTE date). The RES will manage the decentralized independent terminal evaluation of this project under the guidance and support of OED	To be launched 6 months prior to terminal review meeting	*40,000
Terminal Report	PMU with assistance of other project staff and the FAO LTO	2 months before project end	7,000
Total Budget			**362,000**

10. Benefits

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

The project will help deliver the following global socio-economic benefits:

GEF 7 Core Indicator Target	Expected contribution of the GEF project

Direct beneficiaries (disaggregated by gender) benefit of GEF investments.	80,000 members (50% women and 50% men) of rural communities in the target landscapes (disaggregated by gender) directly benefitting of project interventions. ? 5,000 coffee producers trained and equipped with sustainable shade coffee intercropping technologies and inputs. ? 25,000 rice/legume producers trained and equipped with SRI/SRA/CA technologies and inputs. ? 280 public and private extension providers in the target landscapes trained to provide continuous training and technical support to farm and forest producers and producer organizations, cooperatives and SME.The project will support all trained trainers in the search for mechanisms enhancing the economic sustainability and institutionalization of their services beyond the life of the project, such as the creation of cooperatives or associations of training providers (in this case in the private sector) whose work can be covered by small fees of FFS/FBS/FFBI participants. ? 300 staff of community-based nurseries and seedbanks trained and equipped to produce high-quality seeds, seedlings and cuttings. The project will provide a business-oriented nursery/seedbank development approach, so that small local businesses become economically sustainable through the commercialization of the plants and the planting services. ? 70 coffee production, processing and marketing organizations, cooperatives and SME (involving around 3,500 members) are trained and equipped to operate as social/environmental responsible business, increase the quantity and quality of their products, and access domestic and international ethical/organic markets. ? 32 community-based COBA/RAG organizations (involving around 1,600 users) active in firewood/NTFP production, harvesting and marketing are trained and equipped to operate as social/environmental responsible business, increase the quantity and quality of their products, and access domestic and international ethical/organic markets. ? The staff of the FOFIFA Kianjavato Research Centre are trained and equipped to improve the conservation and management of genetic resources of wild/commercialized Coffea species and varieties and other targeted agriculture crop species and varieties, and increase the production of seeds and seedlings accessible to PA managers, decentralized forest services, COBA, RAG and forest and farm producers in the target landscapes. ? Two PhD students will develop research to improve knowledge about the conservation status and genetic diversity of wild Coffea species with the objective to improve conservation/restoration of natural habitats and develop climate-adaptive, and economically beneficial commercial hybrids. ? Around 600 VC actors (cooperatives, equipment/input suppliers, wholesalers, retailers, hotels, restaurants, tour operators, exporters, end-market buyers) have increased their knowledge about VC functioning, actors and linkages, their commercial collaborations, and access to ethic/green certification market segments. ? Around 60,000 people will benefit from the policy development and resposnsible tenure governance improvements leading to SNRM, BD conservation, forest/land restoration, and SVC development.

The Global socio-economic benefits are based following on the following considerations:

? Forest restoration and adaptive forest management: It is estimated that during the project lifetime the members of the 32 COBAs and RAGs (about 1,600 members in total) with management transfer rights in designated forest areas in/around protected areas in the target landscapes will benefit of continuous ER and FFBI learning and technical support, and procurement investments, resulting in 5,000 ha of restored natural

forests, and 5,000 ha of restored agroforestry systems under responsible tenure governance. The forest users that throughout the process have acquired a greater organizational capacity and have sustainably intensified production of the project's target commodities (e.g. firewood/charcoal, bee products, wild silk, basketry, and other prioritized NTFP during project implementation), will be supported to improve their organizational and social/environmental responsible business capacity to intensify/diversify the production of high-quality products, to enhance access to ethical/green certification market segments, and develop contract farming agreements with domestic and international buyer companies operating in these markets and the eco-tourism sector. The project will target women and men in equal proportion of 50 percent.

? Sustainable intensification of coffee agroforestry and diversified rice production systems: It is estimated that during the project lifetime approx. 35,000 women and men smallholder farmers and forest users will directly and indirectly benefit of continuous FFS/FBS/FFBI learning and coaching, and procurement investments in the target landscapes, resulting in 5,000 ha of sustainably intensified shade coffee intercropping plantations, 20,000 ha of sustainably intensified rice/legume diversified production systems under SRI/SRA/CA, and 10,000 of degraded forest and agroforestry land restored. The project will enhance the organizational and business development (with social/environmental corporate responsibility) capacity of the targeted coffee and rice producer organizations, cooperatives and SME, so that they can access to ethical/green certification market segments, and develop contract farming agreements with domestic and international buyer companies operating in these markets. The project will target women and men in equal proportion of 50 percent.

? Increased skills and knowhow on ER/SLM/SFM/GVC: Approximately 35,000 community members will have acquired good knowledge and skills on ER/SLM/SFM/GVC. About 280 extension providers from the public deconcentrated agriculture/forest technical services, NGOs, COBA/RAG, private organizations and women/men lead farmers and forest users will be qualified as lead trainers and facilitators on ER/SLM/SFM/GVC development, therefore increasing their employment opportunities during project implementation and beyond.

? Micro, small and medium enterprise development around ethic/green VC commodities: The project will support approximately 5,000 farm and forest producers to become members of environmentally sound, social beneficial and economically viable POs, cooperatives and/or SME, through training, technical and financial support to operate according to ethical employment standards and healthy/quality/certification standards, and to adopt innovative production/processing/marketing technologies that allow an increase and diversification of high quality production complying with national/international certification standards. Local businesses around GVC commodities will include: (i) community nurseries and seedbanks for the production and marketing of high-quality plant material (seeds, seedlings and cuttings) and the provision of services to customers on the use of plant material in ER/SLM/SFM implementation; (ii) COBA/RAG community organizations for the production and marketing of firewood/charcoal and NTFPs (ecotourism); (iii) POs, cooperatives and SME for the production and marketing of high-quality products from coffee, fruits, rice, legumes, and other complementary crops. The project will target a minimum of 1/3 of women among beneficiaries.

? In terms of access to international market segments around ethic/organic certification, the project PPP contract farming agreements between landscape coffee producers and processors and international buyers (mainly SFCC members involved in ethic/green/specialty coffee products) will help increase the country?s current coffee export records by 10 % by project?s closure (from around 2 300 MT as average

over the last 5 years[1] to about 2 500 MT in Y5). In the same way, no less than 30% of supplies originating from the project and traded on the domestic market will carry, by project?s end (Y5), a certification logo that producers will obtain after compliance with the introduced Participatory Guarantee Schemes? (PGS) practices/dictates.

? At least 50% of targeted farmers and forest users will double their income by the end of the project, thanks to the sustainable intensification and production diversification interventions.

? Adaptive capacity of smallholder farmers and forest users: The project will enhance the adaptive capacity of women and men smallholder farmers and forest users, addressing the gender-specific adaptation needs. The project will enhance farmer?s resilience and adaptation capacity in the following way: (i) reduce the impact of climate shocks on smallholder farmers through the promotion of infrastructures, equipment and management practices that help compensate the effect of drought and flood events through improved soil water conservation (SRI/SRA/CA and agroforestry management systems; water harvesting/storage infrastructures/equipment, less water demanding crop varieties); (ii) diversify livelihoods (food and economic security) with reduced risk of total production loss due to extreme climate events, involving the sustainable intensification of shade coffee intercropping (mix production of coffee, fruits, tuber roots and vegetables) and the diversification of rice/legume farm intercropping/rotation and tree-crop-livestock systems (e.g. rice, legumes, fruits, small livestock, home gardens); (iii) increase the capacity of producer organizations to preserve and process their products reducing their perishability increasing their capacity to negotiate in the market over a longer period of time without depending on the seasonality of the raw product; (iv) increase the capacity to produce high quality ethic/green products with greater potential to access new and more stable growing market segments (e.g. organic and fair trade) and increase revenue that allow smallholder farmers to cover needs in times of shocks.

Target 1.B in MDG 1 (?Eradicate extreme poverty and hunger?) highlights the central role of employment and decent work in achieving food security and poverty reduction, therefore allowing women and men in rural communities to have access to the knowledge and resources necessary to produce sustainably and thereby contributing to the SDG target 15.3 on LDN and to AFR100 (National FLR Strategy). The project formulation has followed the *Guidance on How to Address Decent Rural Employment Concerns in FAO Country Activities* to make sure that decent rural employment is promoted in the project outcomes and outputs:

Table. The Four Pillars of Decent Rural Employment (DRE) in the project

Pillar 1: Employment creation and enterprise development	? Component 1will address explicitly policies, regulations and bylaws supporting zero-deforestation and BD conservation in the implementation of ER/SLM/SFM/GVC development. ? The training-of-trainers (ToT) under Outcome 2.1 and Outcome 3.1 will increase the professionalization of members of practitioners on ER/SLM/SFM/ethic & green VC related-jobs. ? The FFS/FBS/FFBI learning programmes under Outcomes 2.1 and 3.1 will provide vocational and education training for rural women and men on technical and business skills, which will increase their chances of finding jobs and establishing small local enterprises. ? Outcomes 2.1 and 3.1 will build the capacity of women and men small-holder producers in accessing markets and become active in ethic/green VC and certification market segments. ? Component 4 will develop national and sub-national capacities to collect and analyze age and sex disaggregated data on rural labour linked to ILMP interventions.
Pillar 2: Social protection	? Learning programmes under Outcome 2.1 and Outcome 3.1 will train practitioners on occupational safety and health measures for the rural workforce applying ER/SLM/SFM/GVC technologies. ? Producer organizations, enterprises and buyer companies supported by PPP inclusive agribusiness agreements and VC platforms under Component 3 will enhance their social corporate responsibility. ? Procurement investments in each district will include social support for emergency or distress situations, targeting community needs beyond the ER/SLM/SFM/GVC priorities. The provision of this support indirectly delivers ER/SLM/SFM/GVC because it helps remove social barriers that may prevent community members to invest in and apply responsible tenure governance of SNRM.
Pillar 3: Standards and rights at work	? Community bylaw formulation, fair access to training, extension and investments on ER/SLM/SFM/GVC technologies, infrastructure, equipment and inputs will help reduce gender and age-based discrimination in the target landscapes. ? The project will ensure compliance with the National Labour Legislation, that has ratified all key international conventions concerning child labour. the Project will collaborate with governmental inspectors, UNICEF and ILO to carry out targeted child labour inspections in the three target landscapes, with the active involvement of local leaders, and representatives from church, government, NGOs, employers? and workers? organizations.
Pillar 4: Governance and social dialogue	? Component 1 will ensure representation of the rural poor in policy dialogue through awareness raising, training and bylaw formulation on gender-inclusive land tenure and natural resource governance issues. ? The project will ensure in Component 1 fair, and effective participation of the rural poor in the planning, implementation and monitoring of the ILMP/PIA and COBA/RAG plans. ? Components 2 and 3 will put especial focus on capacity enhancement activities for women and youth groups to empower them in ER/SLM/SFM/GVC.

[1] See Table 1.3 of Section 1 of this report.

11. Environmental and Social Safeguard (ESS) Risks

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

Overall Project/Program Risk Classification*

PIF	CEO Endorsement/Approval	MTR	TE
	Medium/Moderate		

Measures to address identified risks and impacts

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

Identified Environmental and Social risks from the project

The project is reclassified from low to moderate risk mostly due to the fact that although the foreseen environmental and social impacts of project are likely to be positive considering the nature of the interventions, the project includes the following risks factors under the Environmental and Social Risk Identification Screening Checklist:

(i) **ESS 1 ? Natural resources management**: The project will work to improve land tenure security and access rights through policy dialogue and multi-stakeholder policy and support implementation of participatory land use planning. This may result in changes to existing tenure rights (formal and informal) of individuals, communities or others to land and forest resources which triggers ESS1.

(ii) **ESS 2 - Biodiversity, ecosystems and natural habitats**: The project will be implemented both in the buffer zone as well as in the protected area and as such triggers ESS2. The project will follow a participatory approach to ensure efficient and sustainable governance mechanisms are put in place and will support the improvement of the existing frameworks for the transfer of natural resource management.

(iii) **ESS 3 - Plant genetic resources for food and agriculture:** The project will promote the production of high-quality climate-adapted plant material (seeds and seedlings) and establish community-managed nurseries and community seed banks which involves the provision and transfer of seeds and planting material for cultivation which triggers ESS3

(iv) **ESS 5 ? Pest and Pesticides management:** The project aims to promote Sustainable Ecosystem Restoration and Sustainable Land Management practices and targeted beneficiaries will be supported in the purchase and effective and safe use of equipments and inputs. The project will promote an agro-ecological approach with the least possible impact on the landscape and biodiversity. Depending on local context, it is however not excluded that the project would promote biological (or synthesized pesticides) and as such an Integrated Pest Management approach would be followed. This is the reason why ESS5 is triggered.

The identified risks are mostly temporal, localized and reversible. Considering the impact, appropriate mitigation measures have been developed to address and mitigate the identified risks above. The developed risk management plan in the table below will allow managing risks by monitoring mitigation actions throughout implementation.

The six-monthly Project Progress Reports (PPR) are the main tool for risk monitoring and management. The PPRs include a section covering the systematic monitoring of risks and mitigation actions that were identified in the previous PPRs. The PPRs also include a section for the identification of possible new risks or risks that still need to be addressed, risk rating and mitigation actions, as well as those responsible for monitoring such actions and estimated timeframes. FAO will closely monitor project risk management and will support the adjustment and implementation of mitigation strategies. The preparation of risk monitoring reports and their rating will also be part of the Annual Project Implementation Review Report (PIR) prepared by FAO and submitted to the GEF Secretariat.

Table: Environment and Social Risks Management Plan

Risk identified	Risk Classification	Mitigation Action (s)	Indicators	Progress on mitigation action

ESS 1- NATURAL RESOURCES MANAGEMENT Tenure	MODERATE	During project implementation, the project will address tenure rights by applying an integrated landscape approach following an inclusive and participatory approach involving all relevant stakeholders. The project will strengthen the capacity of existing community-based natural resource management structures to ensure they have a legal contract with the government to sustainable manage their natural resource base. The project will promote training on land tenure and NRM management rights and regulations with a gender-inclusive focus and adhere to the principles/framework of the Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests in the Context of National Food Security (VGGT) and stakeholders will be trained in its use	# of Integrated Landscape Management Plans (ILMP) developed and agreed by all concerned stakeholders.	N/A
ESS 2 - BIODIVERSITY, ECOSYSTEMS AND NATURAL HABITATS	MODERATE	The project will focus on strengthening the existing governance mechanisms, including the co-management for the Protected Areas. Through the first component useful information and data gathered to develop the ILMPs will benefit the managers of the protected areas to improve the sustainable management as well as the restoration within the PA?s and the buffer zone	# stakeholders participating in capacity strengthening for enhanced and sustainable management of the landscapes (buffer zone and PA)	N/A

ESS 3 - PLANT GENETIC RESOURCES FOR FOOD AND AGRICULTURE	MODERATE	The ILMP and Priority Intervention Area (PIA) planning process will assist in identifying and mapping the local crops species and varieties used by local farmers, including underutilized native species. The project will also establish community seed banks that will serve as hubs where local communities can conserve and exchange seeds that be used for diversifying agricultural systems locally. The selected seeds and planting material will be largely derived from locally adapted crops and varieties will be suitable to local conditions and preferences of farmers and consumers. Through associated trainings, capacities will be strengthened to conserve, restore, multiply and distribute local varieties (especially ex situ conservation of wild coffee varieties in the Kianjavato Coffee Research Station) across farming communities, with the support of Bioversity International, the Kew Gardens Madagascar Conservation Centre and FOFIFA research station to ensure an appropriate number of species will be available for restoration. Species to be used for restoration will be of high biodiversity and cultural value and woodlot planting will be carried out with fast-growing native species. The climate-suitability and adaptability of the prioritized species will also be modelled to ensure long-term sustainability. All species/seeds to be used by the project will need to be accompanied by a certificate delivered by national institute ANCOS to mitigate risk of pests/diseases introduction. Moreover, from the start the project will follow a	# of beneficiaries trained on seed conservation, production and dissemination technologies # of seeds/seedlings conserved and produced through the community nurseries # of crops/varieties conserved and exchanged through seed banks and fairs	N/A

ESS 5 - PEST AND PESTICIDES MANAGEMENT	Moderate	The project will focus on promoting an agro-ecological approach to support sustainbable agricultural intensification/SLM/SFM/ER practices within the targeted landscapes. The project will identify and assess the needs/options for the specific landscapes and production systems and in collaboration with technical institutions/NGOs will develop and promote trainings on specific topics. Several approached will be followed, such as Farmer Field School. The project will prioritize biological control of pest and diseases to the extent possible taking into consideration traditional knowledge nd experience. In case pesticides are required, procurement and usage will follow FAO/WHO International Code of Conduct and FAO?s internal clearance procedures as well adhere to national policies/guidelines in place to ensure it can be promoted safely without compromising the health of the ecosystem and the local people.	# of beneficiaries trained on integrated pest management and safe usage of pesticides	N/A

Supporting Documents

Upload available ESS supporting documents.

Title	Module	Submitted
FAO ES Screening Checklist Madagascar FOLUR v1	**CEO Endorsement ESS**	

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

Project Objective						
Promote sustainable food systems that are deforestation-free and support the conservation of biodiversity and the provision of ecosystem services, with a focus on rice and coffee in landscapes of the Central-South and Eastern coast of Madagascar.						
Component 1: Development of integrated landscape management systems						
Result Chain	**Indicators**	**Baseline**	**Mid-term Milestones**	**Final target**	**Means of Verification**	**Assumptions**
Outcome 1.1: Coffee-forest landscapes managed sustainably through responsible tenure governance, ecosystem services restoration, and livelihoods? diversification.	(i) # of ha of PIAs with maps and implementing plans (Contributing to GEF Core Indicator 4)		(i) 86,274 ha of PIAS with maps and implementing plans	(i) 86,274 ha of PIAS under implementation	ILMP and PIA documents and maps. Reports from ILMP and PIA design process. Video footage and pictures. Partnership agreements and work plans. Reports from training sessions. Hiring contracts and memoranda of understanding with local institutions.	MEDD has the capacity to lead the ILMP and PIA design and identification process. Local communities and other critical partners willing to join the process. Project able to secure national and international technical assistance. FOLUR IP supportive with provision of information and expertise. Political stability

[1]**Output 1.1.1:** Technical capacities of national and local stakeholders to plan, implement and update integrated landscape plans enabling biodiversity conservation are and the provision of ecosystem services, are enhanced.

Output 1.1.2: Four Integrated Landscape Management Plan (ILMPs) produced and validated.

Output 1.1.3: Priority intervention areas (PIAs) identified in each landscape based on ecological, social, and economic opportunities, where interventions under Component 2 and 3 will be implemented.

Result Chain	Indicators	Baseline	Mid-term Milestones	Targets	Means of Verification	Assumptions
Outcome 1.2: Zero-deforestation, biodiversity and social inclusion priorities are mainstreamed into policies and/or strategies relevant to the coffee and rice sectors.	(i) Blue-print for policy improvement produced and validated (ii) Normative documents produced, improved, and approved, mainstreaming zero ?deforestation and biodiversity conservation in coffee and rice production.	(i) No Blue-print. (ii) No normative documents.	(i) PIP developed and submitted to the national FLR Committee. (ii) Four normative documents produced and transposed at decentralized level (ILMP implementing regulations and by-laws).	(i) One blueprint for policy mainstreaming and cross-sectoral. Integration agreed by the national FLR Committee. (ii) Eight normative documents produced and transposed at decentralized level (ILMP implementing regulations and by-laws).	Validated assessment report. TOR and contract for consultant. Minutes of meetings and workshops. New laws and regulations.	Institutions are committed to the improvement of the policy framework. Project able to secure technical assistance. FOLUR supportive with provision of information and expertise. Political stability in Madagascar ensure proper institutional framework.

Output 1.2.1: One blueprint for policy mainstreaming and cross-sectoral integration is produced and validated, with a focus on zero-deforestation and biodiversity conservation in the agro-forestry sector.

Output 1.2.2: At least eight normative bodies (decrees, laws, regulations) are produced/amended/improved to mainstream zero-deforestation and biodiversity conservation priorities, with special focus on the rice and coffee sectors.

Output 1.2.3: Coherent and harmonized by-laws or dinas to ensure good/integrated management and responsible governance of natural resources for ILMPs implementation.

Component 2: Promotion and implementation of sustainable food production practices and responsible value chains

Result Chain	Indicators	Baseline	Mid-term Milestones	Targets	Means of Verification	Assumptions

Outcome 2.1: Coffee and rice value chains improved in terms of efficiency, sustainability and marketing in the priority intervention areas of the four target landscapes	(i) # of ha of coffee plantations under improved management and under formal or informal certification (GEF Core Indicator 4.2) (ii) # of ha of degraded rice farmland and agro-forestry systems under improved agricultural practices and sustainable management (Contributing to GEF Core Indicator 4.3) (iii) # of producer organizations (PO) participating in PPP for the targeted coffee, rice and complementary VC commodities.	(i) TBD (ii) TBD (iii) TBD	(i) 2,000 ha agro-forestry coffee plantations under improved management. (ii) 10,000 ha of diversified rice farmland under diversified and sustainable intensification. (iii) 12,000 (4,000 coffee producers and 8,000 rice producers) people belonging to 88 communes benefit of improved coffee and rice production practices. (iv) One PPP commercial agreement in place between coffee producers and one SFCC end market player.	(i) 5,000 ha of agro-forestry coffee plantations under improved management and under formal or informal certification. (ii) 20,000 ha of diversified rice farmland under diversified and sustainable intensification and 58,000 ha of agro-forestry systems under improved practices (iii) 30,000 (10,000 coffee producers and 20,000 rice producers) people belonging to 88 communes benefit of improved coffee and rice production practices. (iv) Four PPP commercial agreements in place between coffee producers and international buyers.	Production plans and maps. Partnership agreements among producers, project, and buyers. Reports from training sessions. Proof of purchase of equipment. Documents related to certification schemes. Commercial agreements between buyers and producers. Video footage and pictures.	Producers, communities and other critical partners willing to join the work. Project able to secure national and international technical assistance. Project able to secure purchase of adequate equipment. Political stability in Madagascar ensures proper institutional framework. National and international market conditions are suitable and favourable.

Output 2.1.1: Innovative production model for a sustainable, fair, and professionalized coffee value chain from producer to buyer is tested in the target landscapes, including capacity building on sustainability in coffee production.

Output 2.1.2: Market diversification and access for sustainable coffee value chains in the target landscapes enhanced through a public-private-partnership model around environmental and ethical certification standards.

Output 2.1.3: A climate-smart and biodiversity-respectful, diversified rice/legume production system is adopted by capacitated farmers in the buffer zones of coffee agroforestry and protected landscape areas.

Component 3: Conservation and restoration of natural habitats						
Result Chain	Indicators	Baseline	Mid-term Milestone	Targets	Means of Verification	Assumptions

Outcome 3.1: Natural forests and agro-forestry systems conserved, restored and sustainably managed in the priority intervention areas of the four target landscapes	(i) # of ha of high-ecological value forests and agro-forestry systems under restoration / rehabilitation and improved management (GEF Core Indicator 3) (ii) # of ha under improved management to benefit biodiversity/ GEF CI 4.1 (iii) Metric tons of CO2e of GHG Emissions Mitigated (Core Indicator 6) (iv) # of community groups involved in new/improved value chains or green business on forest goods and services. (v) Bankable PES projects for the long-term viability of the work initiated by FOLUR.	(i) TBD (ii) TBD (iii) TBD (iv) TBD (v) No bankable projects	(i) 4,000 ha of natural forests and agro-forestry systems under restoration / rehabilitation and improved management. (ii) TBD (iii) 2,500,000 metric tons CO2e of GHG emissions mitigated. (iv) 10 community groups involved in new/improved value chains or green business on forest goods and services. (v) One PES concept developed for the long-term support of the work in the target landscapes.	(i) 10,000 ha of natural forests and agro-forestry systems under restoration / rehabilitation and improved management. (iii) 3,274 ha (iii) 4,968,459 metric tons CO2e of GHG emissions mitigated. (iv) 32 community groups involved in new/improved value chains or green business on forest goods and services. (v) One PES bankable project developed for the long-term support of the work in the target landscapes.	Restoration plans and maps. Results from the M&E work. Video footage and pictures. Partnership agreements. Reports from training sessions. NWFP assessments and value chain plans. Agreements between producers and buyers. Hiring contracts.	Local communities and other critical partners willing to join the work. Project able to secure required technical assistance. MEDD and MINAE decentralized services guarantees adequate supply of seedlings and other assets required for the restoration work. FOLUR supportive with provision of information and expertise. The market conditions are favourable to the development of new green business initiatives. Political stability in Madagascar ensures proper institutional framework to carry out the work.

Output 3.1.1: Community-led forest restoration, adaptive management and value chain development implemented in the four target landscapes for an enhanced provision of biodiversity and ecosystem services and income generation.

Output 3.1.2 Conservation of endemic coffee agrobiodiversity *in situ* and *ex situ (garden coffee systems)* enhanced

Output 3.1.3: Long-term financing of the landscape restoration and sustainable coffee agroforestry production piloted through innovative mechanisms.

Component 4: Knowledge Management and M&E						
Result Chain	Indicators	Baseline	Mid-term Milestones	Targets	Means of Verification	Assumptions

Outcome 4.1: Knowledge shared at local and international levels (through the FOLUR global platform) and close monitoring of the project	(i)# of people reached from project activities/ GEF CI 11 (ii) Number of project counterparts participating in the FOLUR Global Knowledge to Action Platform and other relevant global platforms. (iii) M&E system in place and harmonised with FOLUR.	(i) 0 (ii) NA (iii) No project/landscape M&E plan exist.	(i) At least 40,000 people reached (ii) At least 8 FOLUR IP and other global relevant fora (AFR100, AFR100, IACO, GLF) organized events attended by 16 project counterparts. (iii) Participatory FLR monitoring plans developed in the 4 target landscapes.	(i) At least 80,000 people reached. (ii) At least 20 FOLUR IP and other global relevant fora (AFR100, AFR100, IACO, GLF) organized events (in person or online) attended by 40 project counterparts. (iii) Lessons learned from FLR monitoring results in the 4 target landscapes produced and disseminated at decentralized, national and international level.	Contract with service providers. Information strategy and documents Reports, articles, videos and other media footage. Communication and awareness raising materials. Reports from international visits and video footage. Reports from FOLUR events and training courses. Evaluation reports.	FOLUR supportive with provision of information and expertise. Partners and especially MEDDD committed and engaged. Project able to secure national and international technical assistance.
Output 4.1.1: Knowledge products, tools and approaches developed and shared at the national level and through the Global Knowledge to Action Platform of FOLUR and other relevant platforms. **Output 4.1.2:** Operational project M&E system in place.						

[1] Training package produced in Malagasy and French languages, including lessons learnt from successful ILM approaches within and outside Madagascar, models and tools at national level.

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

Council comment (on PFD)	**Responses** (with respect to Madagascar child project)

Germany Comments 1) The PIF does not adequately address some fundamental structural challenges of the conventional agricultural production system. Germany would like to request a more explicit analysis of the prevailing transformation challenges towards ecologically sound intensification in both small farming and industrial farming systems, as these substantially affect the described correlation between commodity production and deforestation. Germany suggests addressing these challenges with regard to the agricultural research system, extension system and incentive system more explicitly.	1) The Theory of Chain of the Child Project document specifically considers the fundamental challenges faced by agriculture and forest users to shift from conventional maladaptive management practices to the ecologically sound production intensification and socially beneficially and economically viable value chain development. Based on the ToC analysis, the project outcomes, outputs and activities are designed to effectively overcome the identified challenges: - Responding to the barriers[1] that prevent agriculture and forest users from adopting ecologically sound and climate-adaptive SLM, SFM and ER practices or that lead land users to disadopt them, the project has developed an integrated strategy throughout Components 1, 2 and 3 to ensure the long-term the appropriation by land users and upscaling of sustainable intensified production and ecological restoration systems (e.g. multi-year continuous applied training and coaching over the different production stages for target farmers and forest users eligible for economic incentives to procure equipment and inputs; cross-cutting inclusion of literacy and gender issues; training of a critical mass of public and private trainers located throughout the landscapes even in remote areas; crop diversification; policy improvement together with new landscape-level regulations for compatible land uses and including CBNRM contracts; applied research for climate/locally-adapted production and ecological restoration protocols, and the manufacturing of locally-adapted equipment). - Responding to the barrier that prevent effective, bottom-up integrated landscape management and biodiversity conservation, project Component 1 will enhance the capacity of decentralized institutions to harmonize cross-sectoral policies and effectively apply ILM planning (building on best practices produced by the Global Partnership on FLR and already tested in the country), which is pivotal to balance competing land use demands in a way that is best for both human well-being and the environment. - Responding to the barrier that prevents the professionalization and organization of supply chain actors, limiting their access to investments and green market opportunities, the project will support the development of public-private-partnership models, such as inclusive agribusiness contracts between producer organizations from the target landscapes and end-market companies that are members of international organizations (e.g. SFCC, and other networks whose link is promoted by the FOLUR IP, such as ICA, CARD, CARI, SRP, GACSA, AFR100) supporting the marketing of organic certified and fair-trade products with high return in social, economic and ecological terms. Through these PPPs and supported value chain platforms at national and regional level, the project will support producers to set up socially and ecologically responsible companies, using innovative means of production, processing and marketing. 2) Declining soil fertility and soil erosion loss, due to unsustainable agricultural practices has been identified as a key issue in the barriers analysis. The project will support: - The development of ILMP/PIA plans prioritizing sites where to restore/improve soil & water conservation and soil fertility, through

Norway-Denmark Comments 1. We welcome the proposed IP on Food Systems, Land Use and Restoration. We note that the program includes commodities as well as food crops ? challenges may be similar in some ways but are not always identical. Both agriculture itself and surrounding lands contain genetic resources for food and agriculture, a vital resource for resilient food production in coming years. It is therefore timely to focus on Food Systems and their effect on the environment. We would, however, like to be informed more in detail on how the program will ensure "adaptation benefits by creating more climate-resilient and disease-reliant plants" as stated on page 41 in the main document. We note that the issue of challenges for certain food crops due to climate change has also been brought up by the STAP in their review of this Program.	1) The Child Project specifically addresses the conservation and sustainable use of genetic resources from wild coffee species, from locally adapted crop species and varieties, as well as from wild forest species, so that the project contributes to the selection, production and use of climate-adaptive plant reproductive material. Component 3 will promote applied research at FOFIFA's Kianjavato center to improve conservation techniques, nursery production and use of local wild coffee species, and their potential hybridization with productive varieties, with the aim of improving their adaptability to higher temperatures. and water scarcity. Likewise, the project will promote the use of selected coffee clones with properties better adapted to local agro-ecological and climatic conditions. Component 3 will also promote ?learning-by-doing? research in the supported local nurseries and applied research centers to improve knowledge about the ecology and the CC modified climate envelopes of the indigenous forest species that are prioritized by the National FLRN Strategy for target regions, with the aim of developing production protocols for seeds and seedlings more resistant to the climatic limitations (current and foreseen), and planting methods that favor the survival of plants during the first years of life in which they are most exposed to these limitations (e.g. periods of drought and hydric stress and high temperatures) until they have developed a good root system. Component 2 will promote the production and use of seeds and plants of crop varieties of rice, coffee, legumes and other complementary crops better adapted to the agro-climatic conditions (current and foreseen) of the target regions, and that have been developed by centers national research. The integrated management plans of the target landscapes produced in the scope of Component 1 will help to prioritize both the suitable location for the target crops, as well as the suitable varieties and combination of crops based on the agro-ecological, social and projection conditions. of climate change in the target landscapes. 2) Close alignment with the Global FOLUR IP was sought during the Madagascar child project development, including alignment of outcomes, outputs and indicators where relevant. The Project M&E will be closely coordinated with the Global FOLUR IP M&E. The section on Child Project in the project Document details how the project will both contribute to and benefit from the Global project.

United States Comments 1. Coordination. This program will overlap thematically and possibly geographically with several U.S. projects and programs. In Guatemala alone, this includes USAID Feed the Future and Environment projects and the Office of U.S. Foreign Disaster Assistance (OFDA) program. To ensure complementarity, avoid duplicity and set the tone for coordination from the start, we would like more information on the geographic and technical scopes, as well as partner information. Additionally, we recommend coordination by Implementing and Executing agencies with several stakeholders or projects, including USAID/Guatemala, the National Forestry Institute (INAB) Forest Incentives Program, USAID/OFDA, La Secretar?a de Seguridad Alimentaria y Nutricional de la Presidencia de la Rep?blica (SESAN), and La Coordinadora Nacional para la Reducci?n de Desastres de Guatemala (CONRED). Similarly, there are ongoing jurisdictional efforts aimed at reducing emissions linked to soft commodity production (ISFL, FCPF, Governors Climate and Forest Task Force) in many of the proposed program areas. How will this impact program support for those ongoing efforts and utilize the work these entities have done on the components outlined in the IP?	1) As already mentioned in the PRODOC, the FOLUR Child project in Madagascar overlaps geographically and thematically with the USAID FIOVANA project and II Development Food Security Assistance (DFSA) Activity: - FIOVANA project is active in the Atsimo Atsinana, Fitovivany and Vatovavy regions, and DFSA activities occur in the four target regions. - DSFA addresses food and nutrition security and resilience among extremely poor and chronically vulnerable households, while FIOVANA addresses: (i) nutrition improvement (committees for food distribution); (ii) increase agriculture production (with major focus on rice, beans and vegetable oil) and income through training with a gender and youth focus, the establishment of farmer-field schools (FFS) and Village Saving and Loan Associations (VSLA); (iii) enhance social and ecological risk management through the establishment of Disaster and Response Management Committees in the targeted communes, responsible tenure governance, and ecosystems? restoration and conservation by setting up tree nurseries and the promotion of fuel-efficient cookstoves. The FOLUR Child project will build on relevant lessons learned from USAID projects in Madagascar, such as those from the initiatives (i) ?creating an Environment for Cooperative Expansion (CECE), (ii) mainstreaming climate adaptation into NRM governance frameworks and the private sector, (iii) gender and engagement in agriculture & forest production food and economic security, and (iv) improvement of environmental protection, decentralized natural resource management, and sustainable community development in/around protected areas (Hay Tao and Mikajy projects). During project design, the formulation team has contacted and involved in planning workshops USAID staff managing these projects and has discussed about collaboration opportunities to increase synergies between the different projects and avoid duplication. During the inception phase of the child project, the PMU will define with USAID, as well as with other relevant partners active in the target regions, a collaboration framework that allows sharing resources and expertise and coordinating complementary activities (e.g. sharing expertise and resources for FFS, FBS, FFBI and training around sustainable NRM and VC development). Moreover, the project will sign letters of agreement with several local partners already involved in USAID projects (e.g. the ONI Cooperative with high expertise in the provision of coaching services to agriculture cooperatives active in value chains targeted by the Child project; the NGOs FIANTSO, ADRA, Agronomes et Ve?te?rinaires Sans Frontie?res (AVSF), in such a way as to ensure continuity in the implementation of complementary actions between the different projects, and take advantage of the capacity/expertise already created at the national and local level in terms of knowledge of the thematic areas and good project management. 2) The PRODOC includes a detailed gender analysis (see Section 3 on Gender Equality and Women?s Empowerment and Gender Action Plan). Activities under each output have been crafted to ensure that women not only benefit from the project (fair and equal access to information,

Council comment (on PFD Addendum III)	**Responses** (with respect to Madagascar child project)

Germany Comments Germany requests that the following requirements are taken into account during the design of the final project proposal: (1) Based on the lack of coherence of the different project components, Germany kindly requests a revision of the project component structure so that the different components build on each other. It further recommends a clearer delineation of the targeted regions / of which communities will be addressed by the project.	(1)The project design team has made a great effort to ensure the integration of the project components, outcomes and outputs. Both the ToC and project description describe links among components: - ILMP/PIA planning and policy formulation/revision under Component 1will define the intervention priorities on sustainable agriculture intensification (Outcome 2.1), adaptive management of firewood/NTFPs and restoration of degraded forest/agroforestry land (Output 3.1.1), and conservation and management of genetic resources (Output 3.1.2). Moreover, Component 1 will help define the responsible tenure governance mechanisms supporting the effective inclusion of women and vulnerable population groups in the ILMP/PIA implementation, so that access to the necessary knowledge, education and training, technical support, and investments driving a paradigm change is ensured. Policy revision/improvement Under Component 1 will allow the understanding of the legal frameworks that support BD/forest conservation and zero-deforestation sustainable development and green markets opportunities at the landscape level, and will facilitate the definition of accompanying policy guidelines that make effective the application and enforcement of cross-compliant responsible tenure and SNRM regulations on the ground. - Outputs 2.1.1, 2.1.3 and 3.1.1 will support the effective, long-term adoption of climate-smart production, NRM, and ecological restoration systems and technologies, that will be the basis to achieve a greater diversified production and of high quality, necessary for the business improvement of farm and forest producers and their access to domestic and international certified markets (Outputs 2.1.2 and 3.1.1). - Output 3.1.3 will facilitate the development of long-term financing opportunities to help upscale the implementation of sustainable interventions (in ecological, social and economic terms) prioritized in the ILMP/PIAs of the target landscapes (Component 1). - Component 4 will facilitate the sharing of knowhow and best practices supporting zero-deforestation and sustainable coffee and rice VC development worldwide, and how the adoption and local adaptation of globally-recognized ER/SLM/SFM/SVC intervention mechanisms in Madagascar contributes to achieving the goals and international commitments of the government of Madagascar. (2) Indicators? definition and calculations: The selection of indicators from the ?GEF 7 Core Indicator Worksheet? is based on the project objectives of increasing the area of productive landscapes where sustainable intensification (also implying zero-deforestation and BD conservation) of coffee and rice production occurs, and restoring the ecosystem services of degraded farmland and forestland

Japan Comments Tropical forest-related programs (GEF **ID #10726**, 10689, 10678, 10718, 10688): We welcome these important tropical-forest-related programs, especially as they relate to productive forest supply chains and landscape restoration, which are issues that require urgent global attention. We support a rigorous data-driven approach to this field, and wonder whether the focal agency on forest-related supply chain/ trade matters within the CPF and the main data provider for tropical forests to the FAO is involved i.e. the International Tropical Timber Organization (we only see the TFA mentioned). To better align with an inclusive multi-stakeholder approach, we request the involvement of specialist organizations/platforms as these with the relevant global data, expertise and networks to ensure efficient and effective approaches to relevant stakeholders and to reduce duplication of effort in the global arena. The organization also has relevant indicators and guidelines on legal and sustainable supply chains and forest landscape restoration related to tropical forests, which can help assess and measure impact of relevant projects.	The Global FOLUR IP and Madagascar Child project is intimately related to the CPF, especially with the Joint Initiatives (JI): - JI - Green Finance for Sustainable Landscapes: Output 3.1.3 focuses on the sustainable financing of landscape restoration and deforestation-free coffee and rice agriculture; Moreover, Component 1 will help create enabling conditions (ILMP planning and supportive policies) for commitments to deforestation-free, sustainable commodity production and SNRM, and Component 4 will help define key performance indicators, and a M&E system to measure and monitor environmental and social impacts, as well as the access to business knowledge of the targeted producer groups. - JI ? Forest Landscape Restoration: the project responds to the national FLR commitments to AFR100/Bonn Challenge, and the implementation approach follows the FLR principles. The Global FOLUR and Madagascar Child Project will be active in regional networks relevant for the project objectives (e.g. AFR100, CPF, K2A, GLF, SFCC, IACO, SRP?) and establish collaboration frameworks with JI lead agencies, such as IUCN, UNEP, FAO and the GEF.

STAP comment *(on PFD)*	**Responses** (with respect to Madagascar child project)
1) The STAP encourages additional quantification of key trends during the next phase of program preparation as a baseline from which to measure change, and further specification of the change mechanisms indicated in the theory of change, especially those essential to achieve scaling. The scale of outcomes is difficult to predict and highly dependent upon quality of stakeholder engagement processes at multiple levels. Given the geographic and commodity coverage of this IP, scaling up beyond country-level outcomes is integral to planned program-level outcomes, targeting fundamental transformation in food systems.	These comments are well-received, understood and incorporated where needed into the project design. Attention to detail and efforts have especially been made to establish relevant, meaningful baselines so as to better monitor and scale project impact at the different socio-economic national and subnational levels.

2) More detail should be provided during full program development regarding systematic risk identification and assessment of risk management options and strategies. [?] The PFD notes potential social and environmental risks posed by the country projects but does not specify these. While generic policy and governance risks are noted, there is inadequate explicit attention to political and economic interests that could (and are likely to) oppose desired changes.	2) A detailed analysis of risks was conducted during the project design (including climate risks), and mitigation actions identified. (see Section 5 on Risks).
3) Gender equality aspects merit deeper analysis during full program preparation, particularly regarding barriers to gender-equitable resource access and tenure rights, and to inclusive decision-making in landscape-level planning and policy formulation.	3) A detailed gender analysis was conducted for the Madagascar child project and gender actions incorporated into the project design (see Section 3 on Gender Equality and Women?s Empowerment and Gender Action Plan).

4) Climate mitigation and adaptation goals are well integrated in the high-level program description, and climate-smart agriculture (CSA) practices and technologies are integral to the planned landscape-level responses. Yet, assessment of program-level sensitivity to climate impacts is not presented; more detail is expected in development of country projects and in program-level monitoring and targeted capacity support functions.	4) Climate risks have been considered in the project design: - PRODOC section ?Global environmental and/or adaptation problems, root causes and barriers that need to be addressed? provides information about CC impacts in the target regions, and the coffee and rice VCs. - The project design team has undertaken participatory field assessments to understand climate risks and social-ecological adaptive capacity, whose results have been included in the PRODOC section describing the intervention areas and have been used to prioritize climate-smart ER/SLM/SFM/SVC development interventions. - PRODOC chapter on ?Risks? highlights the climate risks and mitigation/adaptation measures for the project areas. All intervention priorities (ER/SLM/SFM/SVC) are climate-smart - in terms of CC adaptation and mitigation - to allow farmers to better adapt to climate change, and contribute to above- and below-ground carbon storage/avoided C loss. This includes agronomic (i) soil & water conservation agronomic technologies to increase soil carbon and water availability, (ii) water harvesting and storage infrastructure and equipment, and micro-pressurized efficient irrigation technologies to reduce production water needs, (iii) the production of drought-resistant forest seeds and seedlings and the use of soil preparation and planting techniques (e.g. soil mulching and the construction of micro-catchments around planting holes) to increase soil w?ter availability during drough periods and seedling survival rate; (iv) the selection of climate-adapted coffee, rice, legume, and other crops? varieties and adption of CA/SRI/SRA soil & water conservation technologies.

[1] E.g.: uncomplete, discontinuous and short-term training and technical support unequally accessible to women and other vulnerable groups; few extension agents sufficiently trained on SLM/SFM/ER, with limited resources and limited access/presence in remote areas; NRM tenure rights, contracts and regulations that often exclude some vulnerable groups and do not prevent conflicts between competing uses; lack of seasonal farmers? liquidity during lean season that prevents to afford climate-adaptive SLM labor-intensive practices; weak associationism behavior; limited education and literacy especially for women; weak adaptability of to the existing technologies and production protocols to the local agro-environmental context.

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

*Committed amount includes: translation of the project document into French, finalization of execution partner agreements, training to execution partners on reporting requirements

PPG Grant Approved at PIF: **200,000** **GCP /MAG/099/GFF**			
Project Preparation Activities Implemented	***GETF Amount ($)***		
	Budgeted Amount	***Amount Spent To date***	***Amount Committed***
(5011) Salaries Professional			
(5013) Consultants	117,200	79,925	9,000
(5014) Contracts**	22,000	100,424	0
(5021) Travel	37,000	0	
(5023) Training	20,000	106	9,000
(5024) Expendable Procurement		315	
(5028) General Operating Expenses***	3,800	976	254
Total	**200,000**	**181,746**	***18,254**

* Committed amount includes: translation of the project document into French, finalization of execution partner agreements, training to execution partners on reporting requirements
**The Contracts budget line includes the costs for carrying out two fiduciary assessments (outsourced to BDO consulting) and the contracting of a national research institution (ARD) to carry out PPG technical assessments (household surveys and tailored landscape assessments).

*** The GOE budget line includes the costs for stationary as well as the costs to host inception/validation PPG workshops and stakeholder engagement/consultation meetings (i.e costs for venue and related expenses

ANNEX D: Project Map(s) and Coordinates

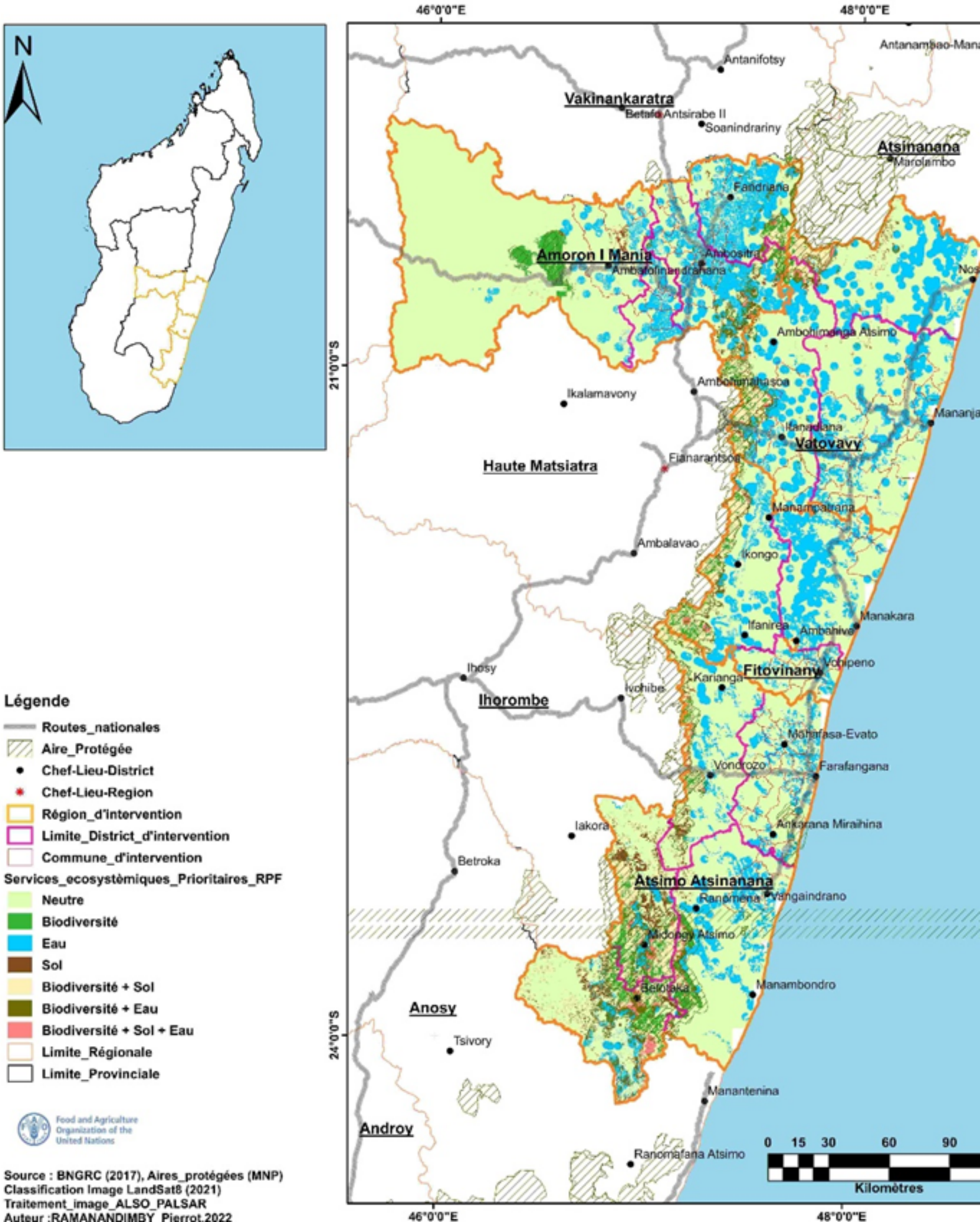
Please attach the geographical location of the project area, if possible.

Target landscapes will be located in the following geo-coordinates:

R?gion	**Longitude**		**Latitude**	
Fitovinany	48?12'283"E	47?24'41"E	21?36'5"S	22?28'31"S

Amoron'i Mania	47?32'49"E	46?37'37"E	20?2'11"S	20?49'58"S
Vatovavy	48?25'48"E	47?29'48"E	20?54'44"S	21?43'50"S
Atsimo Atsinanana	47?52'8"E	47?23'40"E	22?31'1"S	23?25'59"S

Map showing the four target regions and pre-identified communes:



Légende

- Routes_nationales
- Aire_Protégée
- Chef-Lieu-District
- Chef-Lieu-Region
- Région_d'intervention
- Limite_District_d'intervention
- Commune_d'intervention

Services_ecosystèmiques_Prioritaires_RPF

- Neutre
- Biodiversité
- Eau
- Sol
- Biodiversité + Sol
- Biodiversité + Eau
- Biodiversité + Sol + Eau
- Limite_Régionale
- Limite_Provinciale

Food and Agriculture Organization of the United Nations

Source : BNGRC (2017), Aires_protégées (MNP)
Classification Image LandSat8 (2021)
Traitement_image_ALSO_PALSAR
Auteur :RAMANANDIMBY Pierrot.2022

ANNEX E: Project Budget Table

Please attach a project budget table.

FAO Cost Categories	Unit	No. of units	Unit cost	Component 1 Total	Component 2 Total	Component 3 Total	Component 4 Total	M&E	PMC	Total GEF	OP1: MEDD	OP2: MINAE	Other executing entities	FAO Support Services	Total
5013 Consultants															
GIS/Collect Earth	Day	30	450	**13500**	**0**	**0**	**0**			**13,500**	13,500				**13,500**
Household Survey expert (SHARP)	Day	80	450	**36000**	**0**	**0**	**0**			**36,000**	36,000				**36,000**
Food Systems and Restoration Technical Specialist	Day	300	450	**30000**	**34500**	**58,500**	**12,000**			**135,000**	135,000				**135,000**
International markets for green value chains	Day	130	450	**27000**	**31500**	**0**	**0**			**58,500**		58,500			**58,500**
Agriculture innovations	Day	130	450	**27000**	**31500**	**0**	**0**			**58,500**		58,500			**58,500**
Ecosystem Management & BD Conservation	Day	130	450	**27000**	**0**	**31,500**	**0**			**58,500**	58,500				**58,500**
Payment for Ecosystem Services Expert	Day	150	450	**0**	**0**	**67,500**	**0**			**67,500**	67,500				**67,500**
Sub-total international Consultants				*160500*	*97500*	*157500*	*12000*	*0*	*0*	**427,500**	*310500*	*117000*	*0*	*0*	***427,500***
Project Coordinator	Month	60	2,600	**0**	**0**	**0**	**0**		156,000	**156,000**	156,000				**156,000**
GIS/Collect Earth	Day	180	250	**45000**	**0**	**0**	**0**			**45,000**	45,000				**45,000**
Execution Capacity Development and ESS Specialist	lumpsum	1	130,000	**0**	**0**	**0**	**0**	130,000		**130,000**				130,000	**130,000**
Administrative Assistant/ Procurement (MEDD)	lumpsum	1	60,000	**0**	**0**	**0**	**0**		60,000	**60,000**	60,000				**60,000**
Operations Officer (MINAE)	lumpsum	1	35,000	**0**	**0**	**0**	**0**		35,000	**35,000**		35,000			**35,000**
M&E Officer	Month	30	1,800	**0**	**0**	**0**	**0**	54,000		**54,000**	54,000				**54,000**
AML Technical Facilitator	Month	60	1,800	**45,000**	**27,000**	**27,000**	**9,000**			**108,000**	108,000				**108,000**
FTL Technical Facilitator	Month	60	1,800	**45,000**	**27,000**	**27,000**	**9,000**			**108,000**	108,000				**108,000**
VTL Technical Facilitator	Month	60	1,800	**45,000**	**27,000**	**27,000**	**9,000**			**108,000**	108,000				**108,000**
AAL Technical Facilitator	Month	60	1,800	**45,000**	**27,000**	**27,000**	**9,000**			**108,000**	108,000				**108,000**
AML Junior facilitator	Month	60	800	**10,000**	**6,000**	**6,000**	**2,000**	24,000		**48,000**	48,000				**48,000**
FTL Junior facilitator	Month	60	800	**10,000**	**6,000**	**6,000**	**2,000**	24,000		**48,000**	48,000				**48,000**
VTL Junior facilitator	Month	60	800	**10,000**	**6,000**	**6,000**	**2,000**	24,000		**48,000**	48,000				**48,000**
AAL Junior facilitator	Month	60	800	**10,000**	**6,000**	**6,000**	**2,000**	24,000		**48,000**	48,000				**48,000**
FLR/Biodiversity/ Forestry Expert	Month	60	2000	**16000**	**30,000**	**74,000**	**0**			**120,000**	120,000				**120,000**
Agriculture/Water Expert	Month	60	2000	**16000**	**97,000**	**7,000**	**0**			**120,000**		120,000			**120,000**
Agriculture and Forest Business development Expert	Month	60	2000	**16000**	**77,000**	**27,000**	**0**			**120,000**		120,000			**120,000**
Gender/Social Expert	Day	300	150	**15000**	**15,000**	**15,000**	**0**			**45,000**		45,000			**45,000**
Policy & Governance Expert	Day	180	150	**18000**	**4,500**	**4,500**	**0**			**27,000**	27,000				**27,000**
Community Engagement Facilitators: 23 men facilitators	Month	60	2990	**53820**	**53,820**	**53,820**	**17,940**			**179,400**	179,400				**179,400**
Community Engagement Facilitators: 23 women facilitators	Month	60	2990	**53820**	**53,820**	**53,820**	**17,940**			**179,400**	179,400				**179,400**
Sub-total national Consultants				***453,640***	***463,140***	***367,140***	***79,880***	*280,000*	*251,000*	**1,894,800**	*1,444,800*	*320,000*	*0*	*130,000*	***1,894,800***
5013 Sub-total consultants				**614,140**	**560,640**	**524,640**	**91,880**	**280,000**	**251,000**	**2,322,300**	**1,755,300**	**437,000**	**0**	**130,000**	**2,322,300**
5650 Contracts															
National Seminar on policy revision (Component 1)	lumpsum	1	55,000	**55,000**	**0**	**0**	**0**			**55,000**			55,000		**55,000**
Contract for running part of FLR landscape plan investments: setting up and running of coffee field learning schools (Output 2.1.1) - - FDA/To be determined	lumpsum	1	210,000	**0**	**210,000**	**0**	**0**			**210,000**			210,000		**210,000**
Contract for running part of FLR landscape plan investments: setting up and running of rice/legume FFS/FBS (Output 2.1.3) - FDA/To be determined	lumpsum	1	230,000	**0**	**230,000**	**0**	**0**			**230,000**			230,000		**230,000**
Contract for setting up and running of coffee and other VC commodities (NTFP, legumes) FFBI schools (Outputs 2.1.1, 2.1.2 and Output 3.1.1) - SOA	lumpsum	1	206,000	**0**	**132,000**	**74,000**	**0**			**206,000**			206,000		**206,000**
Contract for organizing ToT FFBI training and ToT FLR training (Output 2.1.2 and Output 3.1.1) - ONI	lumpsum	1	64,000	**0**	**32,000**	**32,000**	**0**			**64,000**			64,000		**64,000**
Contract for training, coaching and establishing 12 community-nurseries (Output 2.1.1, Output 3.1.1) - SNGF	lumpsum	1	270,000	**0**	**135,000**	**135,000**	**0**			**270,000**			270,000		**270,000**
Contract for training coaching and investments for KCRS to improve infrastructures and equipment (Output 2.1.1, Output 3.1.1 and Output 3.1.2) - SFCC	lumpsum	1	100,000	**0**	**20,000**	**80,000**	**0**			**100,000**			100,000		**100,000**
Contract for training, coaching and establishment of community seed-banks (Output 2.1.3) - Seed Multiplication Centers (CMS)/Nat. Agency for Official Seed and Plants Control (ANCOS)	lumpsum	1	156,000	**0**	**156,000**	**0**	**0**			**156,000**			156,000		**156,000**
Contract for training, coaching and PPP development (Outputs 2.11 and 2.1.2) - SFCC	lumpsum	1	150,000	**0**	**150,000**	**0**	**0**			**150,000**			150,000		**150,000**
Communication & KM Agency (Output 4.1.1): Production of Knowledge Management materials (meetings, publications, videos, media news, gingles, etc).	lumpsum	1	153,600	**0**	**0**	**0**	**153,600**			**153,600**			153,600		**153,600**
Audit (1per year per OP)	lumpsum	1	65,000	**0**	**0**	**0**	**0**		65,000	**65,000**				65,000	**65,000**
Spot-checks (2 per year per OP)	lumpsum	1	70,000	**0**	**0**	**0**	**0**		70,000	**70,000**				70,000	**70,000**
M&E Costs (Mid-term Review (30,000) + Final Evaluation (40,000) + Terminal Report (7,000)	lumpsum	1	77,000	**0**	**0**	**0**	**0**	77000		**77,000**				77,000	**77,000**
5650 Sub-total Contracts				**55,000**	**1,065,000**	**321,000**	**153,600**	**77,000**	**135,000**	**1,806,600**	**0**	**0**	**1,594,600**	**212,000**	**1,806,600**
5021 Travel															
International travel										**0**					
International Travels for experts recruited by MEDD	lumpsum	1	60501	**18,680**	**0**	**41,821**	**0**			**60,501**	60,501				**60,501**
International Travels for experts recruited by MINAE	lumpsum	1	37200	**19,200**	**18,000**	**0**	**0**			**37,200**		37,200			**37,200**
National travel															
National Travels for experts recruited by MEDD	lumpsum	1	238000	**55,100**	**50,400**	**33,600**	**98,900**			**238,000**	238,000				**238,000**
National Travels for experts recruited by MINAE	lumpsum	1	135100	**55,100**	**80,000**	**0**	**0**			**135,100**		135,100			**135,100**
Travels for community engagement	lumpsum	1	98900	**0**	**0**	**0**	**98,900**			**98,900**		98,900			**98,900**
Participation to Global FOLUR and other International Events	lumpsum	1	60000	**0**	**0**	**60,000**	**0**			**60,000**	30,000	30,000			**60,000**
National travel of M&E staff to monitor the implementation of ILMP' interventions under Component 2	lumpsum	1	130000	**27,675**	**86,125**	**16,200**	**0**			**130,000**	130,000				**130,000**
5021 Sub-total travel				**175755**	**234525**	**151,621**	**197800**	**0**	**0**	**759,701**	**458,501**	**301,200**	**0**	**0**	**759,701**
5023 Training															
National FLR Committee members' periodical meetings (Component 1) (2meetings/year)	unit	10	1700	**10,000**	**0**	**0**	**7,000**			**17000**	17000				**17,000**
PSC meetings (Inception and final workshops included)	Lumpsum	1	15000	**0**	**0**	**0**	**10,000**	5,000		**15000**	15000				**15,000**
Landscape Steering Committee members' periodical meetings (Component 1-2-3)	Lumpsum	1	80000	**45,000**	**20,000**	**15,000**	**0**			**80000**	80000				**80,000**
Value Chain Platform members' periodical meetings (Component 2, Output 2.3.3)	Lumpsum	1	80000	**0**	**50,000**	**30,000**	**0**			**80000**	40000	40000			**80,000**
Inception and SC Landscape workshops	Lumpsum	1	50000	**10,000**	**0**	**0**	**40,000**			**50,000**	50,000				**50,000**
Events and workshops with village-level actors to raise awareness, training, planning, formulating community-bylaws, etc (Components 1-2-3).	Lumpsum	1	110000	**20,000**	**60,000**	**30,000**	**0**			**110,000**	110,000				**110,000**
FLR Landscape planning workshops with Landscape Management Committees (Component 1, Outputs 1.1.2 and 1.1.3) (2 workshops x each landscape for launchig and validation).	Lumpsum	1	32375	**32,375**	**0**	**0**	**0**			**32,375**	32,375				**32,375**
Output 1.1.1: Three training workshops x 50	Lumpsum	1	32375	**32,375**	**0**	**0**	**0**			**32,375**	32,375				**32,375**

FAO Cost Categories	Unit	No. of units	Unit cost	Component 1 Total	Component 2 Total	Component 3 Total	Component 4 Total	M&E	PMC	Total GEF	OP1: MEDD	OP2: MINAE	Other executing entities	FAO Support Services	Total
5013 Consultants															
GIS/Collect Earth	Day	30	450	**13500**	**0**	**0**	**0**			**13,500**	13,500				**13,500**
Household Survey expert (SHARP)	Day	80	450	**36000**	**0**	**0**	**0**			**36,000**	36,000				**36,000**
Food Systems and Restoration Technical Specialist	Day	300	450	**30000**	**34500**	**58,500**	**12,000**			**135,000**	135,000				**135,000**
International markets for green value chains	Day	130	450	**27000**	**31500**	**0**	**0**			**58,500**		58,500			**58,500**
Agriculture innovations	Day	130	450	**27000**	**31500**	**0**	**0**			**58,500**		58,500			**58,500**
Ecosystem Management & BD Conservation	Day	130	450	**27000**	**0**	**31,500**	**0**			**58,500**	58,500				**58,500**
Payment for Ecosystem Services Expert	Day	150	450	**0**	**0**	**67,500**	**0**			**67,500**	67,500				**67,500**
Sub-total international Consultants				*160500*	*97500*	*157500*	*12000*	*0*	*0*	**427,500**	*310500*	*117000*	*0*	*0*	**427,500**
Project Coordinator	Month	60	2,600	**0**	**0**	**0**	**0**	156,000		**156,000**	156,000				**156,000**
GIS/Collect Earth	Day	180	250	**45000**	**0**	**0**	**0**			**45,000**	45,000				**45,000**
Execution Capacity Development and ESS Specialist	lumpsum	1	130,000	**0**	**0**	**0**	**0**	130,000		**130,000**				130,000	**130,000**
Administrative Assistant/ Procurement (MEDD)	lumpsum	1	60,000	**0**	**0**	**0**	**0**		60,000	**60,000**	60,000				**60,000**
Operations Officer (MINAE)	lumpsum	1	35,000	**0**	**0**	**0**	**0**		35,000	**35,000**		35,000			**35,000**
M&E Officer	Month	30	1,800	**0**	**0**	**0**	**0**	54,000		**54,000**	54,000				**54,000**
AML Technical Facilitator	Month	60	1,800	**45,000**	**27,000**	**27,000**	**9,000**			**108,000**	108,000				**108,000**
FTL Technical Facilitator	Month	60	1,800	**45,000**	**27,000**	**27,000**	**9,000**			**108,000**	108,000				**108,000**
VTL Technical Facilitator	Month	60	1,800	**45,000**	**27,000**	**27,000**	**9,000**			**108,000**	108,000				**108,000**
AAL Technical Facilitator	Month	60	1,800	**45,000**	**27,000**	**27,000**	**9,000**			**108,000**	108,000				**108,000**
AML Junior facilitator	Month	60	800	**10,000**	**6,000**	**6,000**	**2,000**	24,000		**48,000**	48,000				**48,000**
FTL Junior facilitator	Month	60	800	**10,000**	**6,000**	**6,000**	**2,000**	24,000		**48,000**	48,000				**48,000**
VTL Junior facilitator	Month	60	800	**10,000**	**6,000**	**6,000**	**2,000**	24,000		**48,000**	48,000				**48,000**
AAL Junior facilitator	Month	60	800	**10,000**	**6,000**	**6,000**	**2,000**	24,000		**48,000**	48,000				**48,000**
FLR/Biodiversity/ Forestry Expert	Month	60	2000	**16000**	**30,000**	**74,000**	**0**			**120,000**	120,000				**120,000**
Agriculture/Water Expert	Month	60	2000	**16000**	**97,000**	**7,000**	**0**			**120,000**		120,000			**120,000**
Agriculture and Forest Business development Expert	Month	60	2000	**16000**	**77,000**	**27,000**	**0**			**120,000**		120,000			**120,000**
Gender/Social Expert	Day	300	150	**15000**	**15,000**	**15,000**	**0**			**45,000**		45,000			**45,000**
Policy & Governance Expert	Day	180	150	**18000**	**4,500**	**4,500**	**0**			**27,000**	27,000				**27,000**
Community Engagement Facilitators: 23 men facilitators	Month	60	2990	**53820**	**53,820**	**53,820**	**17,940**			**179,400**	179,400				**179,400**
Community Engagement Facilitators: 23 women facilitators	Month	60	2990	**53820**	**53,820**	**53,820**	**17,940**			**179,400**	179,400				**179,400**
Sub-total national Consultants				*453,640*	*463,140*	*367,140*	*79,880*	*280,000*	*251,000*	**1,894,800**	*1,444,800*	*320,000*	*0*	*130,000*	***1,894,800***
5013 Sub-total consultants				**614,140**	**560,640**	**524,640**	**91,880**	**280,000**	**251,000**	**2,322,300**	**1,755,300**	**437,000**	**0**	**130,000**	**2,322,300**
5650 Contracts															
National Seminar on policy revision (Component 1)	lumpsum	1	55,000	**55,000**	**0**	**0**	**0**			**55,000**			55,000		**55,000**
Contract for running part of FLR landscape plan investments: setting up and running of coffee field learning schools (Output 2.1.1) - - FDA/To be determined	lumpsum	1	210,000	**0**	**210,000**	**0**	**0**			**210,000**			210,000		**210,000**
Contract for running part of FLR landscape plan investments: setting up and running of rice/legume FFS/FBS (Output 2.1.3) - FDA/To be determined	lumpsum	1	230,000	**0**	**230,000**	**0**	**0**			**230,000**			230,000		**230,000**
Contract for setting up and running of coffee and other VC commodities (NTFP, legumes) FFBI schools (Outputs 2.1.1, 2.1.2 and Output 3.1.1) - SOA	lumpsum	1	206,000	**0**	**132,000**	**74,000**	**0**			**206,000**			206,000		**206,000**
Contract for organizing ToT FFBI training and ToT FLR training (Output 2.1.2 and Output 3.1.1) - ONI	lumpsum	1	64,000	**0**	**32,000**	**32,000**	**0**			**64,000**			64,000		**64,000**
Contract for training, coaching and establishing 12 community-nurseries (Output 2.1.1, Output 3.1.1) - SNGF	lumpsum	1	270,000	**0**	**135,000**	**135,000**	**0**			**270,000**			270,000		**270,000**
Contract for training coaching and investments for KCRS to improve infrastructures and equipment (Output 2.1.1, Output 3.1.1 and Output 3.1.2) - [illegible]	lumpsum	1	100,000	**0**	**20,000**	**80,000**	**0**			**100,000**			100,000		**100,000**
Contract for training, coaching and establishment of community seed-banks (Output 2.1.3) - Seed Multiplication Centers (CMS)/Nat. Agency for Official Seed and Plants Control (ANCOS)	lumpsum	1	156,000	**0**	**156,000**	**0**	**0**			**156,000**			156,000		**156,000**
Contract for training, coaching and PPP development (Outputs 2.11 and 2.1.2) - SFCC	lumpsum	1	150,000	**0**	**150,000**	**0**	**0**			**150,000**			150,000		**150,000**
Communication & KM Agency (Output 4.1.1): Production of Knowledge Management materials (meetings, publications, videos, media news, gingles, etc).	lumpsum	1	153,600	**0**	**0**	**0**	**153,600**			**153,600**			153,600		**153,600**
Audit (1per year per OP)	lumpsum	1	65,000	**0**	**0**	**0**	**0**		65,000	**65,000**				65,000	**65,000**
Spot-checks (2 per year per OP)	lumpsum	1	70,000	**0**	**0**	**0**	**0**		70,000	**70,000**				70,000	**70,000**
M&E Costs (Mid-term Review (30,000) + Final Evaluation (40,000) + Terminal Report (7,000)	lumpsum	1	77,000	**0**	**0**	**0**	**0**	77000		**77,000**				77,000	**77,000**
5650 Sub-total Contracts				**55,000**	**1,065,000**	**321,000**	**153,600**	**77,000**	**135,000**	**1,806,600**	**0**	**0**	**1,594,600**	**212,000**	**1,806,600**
5921 Travel															
International travel										**0**					
International Travels for experts recruited by MEDD	lumpsum	1	60501	**18,680**	**0**	**41,821**	**0**			**60,501**	60,501				**60,501**
International Travels for experts recruited by MINAE	lumpsum	1	37200	**19,200**	**18,000**	**0**	**0**			**37,200**		37,200			**37,200**
National travel															
National Travels for experts recruited by MEDD	lumpsum	1	238000	**55,100**	**50,400**	**33,600**	**98,900**			**238,000**	238,000				**238,000**
National Travels for experts recruited by MINAE	lumpsum	1	135100	**55,100**	**80,000**	**0**	**0**			**135,100**		135,100			**135,100**
Travels for community engagement	lumpsum	1	98900	**0**	**0**	**0**	**98,900**			**98,900**		98,900			**98,900**
Participation to Global FOLUR and other International Events	lumpsum	1	60000	**0**	**0**	**60,000**	**0**			**60,000**	30,000	30,000			**60,000**
National travel of M&E staff to monitor the implementation of ILMP interventions under Component 2	lumpsum	1	130000	**27,675**	**86,125**	**16,200**	**0**			**130,000**	130,000				**130,000**
5021 Sub-total travel				**175755**	**234525**	**151,621**	**197800**	**0**	**0**	**759,701**	**458,501**	**301,200**	**0**	**0**	**759,701**
5023 Training															
National FLR Committee members' periodical meetings (Component 1) (2meetings/year)	unit	10	1700	**10,000**	**0**	**0**	**7,000**			**17000**	17000				**17,000**
PSC meetings (Inception and final workshops included)	Lumpsum	1	15000	**0**	**0**	**0**	**10,000**	5,000		**15000**	15000				**15,000**
Landscape Steering Committee members' periodical meetings (Component 1-2-3)	Lumpsum	1	80000	**45,000**	**20,000**	**15,000**	**0**			**80000**	80000				**80,000**
Value Chain Platform members' periodical meetings (Component 2, Output 2.3.3)	Lumpsum	1	80000	**0**	**50,000**	**30,000**	**0**			**80000**	40000	40000			**80,000**
Inception and SC Landscape workshops	Lumpsum	1	50000	**10,000**	**0**	**0**	**40,000**			**50,000**	50,000				**50,000**
Events and workshops with village-level actors to raise awareness, training, planning, formulating community-bylaws, etc (Components 1-2-3).	Lumpsum	1	110000	**20,000**	**60,000**	**30,000**	**0**			**110,000**	110,000				**110,000**
FLR Landscape planning workshops with Landscape Management Committees (Component 1, Outputs 1.1.2 and 1.1.3) (2 workshops x each landscape for launchig and validation)	Lumpsum	1	32375	**32,375**	**0**	**0**	**0**			**32,375**	32,375				**32,375**
Output 1.1.1: Three training workshops x 50 participants x 4 landscapes	Lumpsum	1	32375	**32,375**	**0**	**0**	**0**			**32,375**	32,375				**32,375**
Output 1.1.3. 30 PIA workshops x 1,000 USD x 20 participants	Lumpsum	1	90375	**90,375**	**0**	**0**	**0**			**90,375**	90,375				**90,375**
Output 1.2.2: Policy training workshops	Lumpsum	1	30750	**30,750**	**0**	**0**	**0**			**30,750**	30,750				**30,750**
Output 3.1.3: PES planning workshops	Lumpsum	1	16000	**0**	**0**	**16,000**	**0**			**16,000**	16,000				**16,000**
5023 Sub-total training				**270,875**	**130,000**	**91,000**	**57,000**	**5,000**	**0**	**553,875**	**513,875**	**40,000**	**0**	**0**	**553,875**
5024 Expendable procurement															
Output 2.1.1: Procurement Window for Coffee agroforestry production Investments	Lumpsum	1	1,415,375	**0**	**1,415,375**	**0**	**0**			**1,415,375**	1,415,375				**1,415,375**
Output 2.1.2: Procurement Window for Coffee processing and marketing Investments	Lumpsum	1	545,000	**0**	**545,000**	**0**	**0**			**545,000**	545,000				**545,000**
Output 2.1.2: Procurement Window for targeting manufacturers on locally-adapted coffee VC equipment	Lumpsum	1	65,375	**0**	**65,375**	**0**	**0**			**65,375**	65,375				**65,375**
Output 2.1.3: Procurement Window for SRI/SRA/CA rice/legumes production Investments	Lumpsum	1	1,426,120	**0**	**1,426,120**	**0**	**0**			**1,426,120**		1,426,120			**1,426,120**
Output 2.1.3: Procurement Window for targeting manufacturers on locally-adapted rice/legume VC equipment	Lumpsum	1	80,375	**0**	**80,375**	**0**	**0**			**80,375**		80,375			**80,375**
Output 3.1.1: Procurement Window for investments supporting community-based forest restoration	Lumpsum	1	812,200	**0**	**0**	**812,200**	**0**			**812,200**	812,200				**812,200**
5024 Sub-total expendable procurement				**0**	**3,532,245**	**812,200**	**0**	**0**	**0**	**4,344,445**	**2,837,950**	**1,506,495**	**0**	**0**	**4,344,445**
6100 Non-expendable procurement															
Household Survey Equipment (i.e tablets)	Lumpsum	1	3,000	**3,000**	**0**	**0**	**0**			**3,000**	3,000				**3,000**
Computer, equipment and consumables (software coats included)	Lumpsum	1	36,696	**0**	**0**	**0**	**0**		36,696	**36,696**	29,357	7,339			**36,696**
6100 Sub-total non-expendable procurement				**3,000**	**0**	**0**	**0**	**0**	**36,696**	**39,696**	**32,357**	**7,339**	**0**	**0**	**39,696**
5028 GOE budget															
Office expenses (electricity, water, phone etc)	Lumpsum	1	47,500	**0**	**0**	**0**	**0**		47,500	**47,500**	38,000	9,500			**47,500**
6300 Sub-total GOE budget				**0**	**0**	**0**	**0**	**0**	**47,500**	**47,500**	**38,000**	**9,500**	**0**	**0**	**47,500**
TOTAL				**1,118,770**	**5,522,410**	**1,900,461**	**500,280**	**362,000**	**470,196**	**9,874,117**	**5,635,983**	**2,301,534**	**1,594,600**	**342,000**	**9,874,117**
										TRUE	**57%**	**23%**	**16%**	**3%**	

SUBTOTAL Comp 1	**1,118,770**		
SUBTOTAL Comp 2	**5,522,410**		
SUBTOTAL Comp 3	**1,900,461**		
SUBTOTAL Comp 4	**500,280**		
M&E	**362,000**	3.85%	up to 10mil 3%
Subtotal	**9,403,921**		
Project Management Cost (PMC)	***470,196***	5.0%	
TOTAL GEF	**9,874,117**		

FAO Cost Categories	Unit	No. of units	Unit cost	Component 1 Total	Component 2 Total	Component 3 Total	Component 4 Total	M&E	PMC	Total GEF	OP1: MEDD	OP2: MINAE	Other executing entities	FAO Support Services	Total
5013 Consultants															
GIS/Collect Earth	Day	30	450	**13500**	**0**	**0**	**0**			**13,500**	13,500				**13,500**
Household Survey expert (SHARP)	Day	80	450	**36000**	**0**	**0**	**0**			**36,000**	36,000				**36,000**
FLR Chief Technical Adviser	Day	300	450	**30000**	**34500**	**28,500**	**12,000**		30000	**135,000**	135,000				**135,000**
International markets for green value chains	Day	130	450	**27000**	**31500**	**0**	**0**			**58,500**		58,500			**58,500**
Agriculture innovations	Day	130	450	**27000**	**31500**	**0**	**0**			**58,500**		58,500			**58,500**
Ecosystem Management & BD Conservation	Day	130	450	**27000**	**0**	**31,500**	**0**			**58,500**	58,500				**58,500**
Payment for Ecosystem Services Expert	Day	150	450	**0**	**0**	**67,500**	**0**			**67,500**	67,500				**67,500**
Sub-total international Consultants				*160500*	*97500*	*127500*	*12000*	*0*	*30000*	**427,500**	*310500*	*117000*	*0*	*0*	**427,500**
Project Coordinator	Month	60	2,600	**25,000**	**15,000**	**15,000**	**10,000**		91,000	**156,000**	156,000				**156,000**
GIS/Collect Earth	Day	180	250	**45000**	**0**	**0**	**0**			**45,000**	45,000				**45,000**
Execution Capacity Development and ESS Specialist	lumpsum	1	130,000	**0**	**0**	**0**	**0**	130,000		**130,000**				130,000	**130,000**
Administrative Assistant/ Procurement (MEDD)	lumpsum	1	55,000	**0**	**0**	**0**	**0**		55,000	**55,000**	55,000				**55,000**
Operations Officer (MINAE)	lumpsum	1	35,000	**0**	**0**	**0**	**0**		35,000	**35,000**		35,000			**35,000**
M&E Officer	Month	30	1,800	**0**	**0**	**0**	**0**	54,000		**54,000**	54,000				**54,000**
ABL Technical Facilitator	Month	60	1,800	**45,000**	**27,000**	**27,000**	**9,000**			**108,000**	108,000				**108,000**
FTL Technical Facilitator	Month	60	1,800	**45,000**	**27,000**	**27,000**	**9,000**			**108,000**	108,000				**108,000**
VTL Technical Facilitator	Month	60	1,800	**45,000**	**27,000**	**27,000**	**9,000**			**108,000**	108,000				**108,000**
AAL Technical Facilitator	Month	60	1,800	**45,000**	**27,000**	**27,000**	**9,000**			**108,000**	108,000				**108,000**
ABL Junior facilitator	Month	60	800	**10,000**	**6,000**	**6,000**	**2,000**	24,000		**48,000**	48,000				**48,000**
FTL Junior facilitator	Month	60	800	**10,000**	**6,000**	**6,000**	**2,000**	24,000		**48,000**	48,000				**48,000**
VTL Junior facilitator	Month	60	800	**10,000**	**6,000**	**6,000**	**2,000**	24,000		**48,000**	48,000				**48,000**
AAL Junior facilitator	Month	60	800	**10,000**	**6,000**	**6,000**	**2,000**	24,000		**48,000**	48,000				**48,000**
FLR/Biodiversity/ Forestry Expert	Month	60	2000	**16000**	**30,000**	**74,000**	**0**			**120,000**	120,000				**120,000**
Agriculture/Water Expert	Month	60	2000	**16000**	**97,000**	**7,000**	**0**			**120,000**		120,000			**120,000**
Agriculture and Forest Business development Expert	Month	60	2000	**16000**	**77,000**	**27,000**	**0**			**120,000**		120,000			**120,000**
Gender/Social Expert	Day	300	150	**15000**	**15,000**	**15,000**	**0**			**45,000**		45,000			**45,000**
Policy & Governance Expert	Day	180	150	**18000**	**4,500**	**4,500**	**0**			**27,000**	27,000				**27,000**
Community Engagement Facilitators: 23 men facilitators	Month	60	2990	**53820**	**53,820**	**53,820**	**17,940**			**179,400**	179,400				**179,400**
Community Engagement Facilitators: 23 women facilitators	Month	60	2990	**53820**	**53,820**	**53,820**	**17,940**			**179,400**	179,400				**179,400**
Sub-total national Consultants				*478,640*	*478,140*	*382,140*	*89,880*	*280,000*	*181,000*	**1,889,800**	*1,439,800*	*320,000*	*0*	*130,000*	***1,889,800***
5013 Sub-total consultants				**639,140**	**575,640**	**509,640**	**101,880**	**280,000**	**211,000**	**2,317,300**	**1,750,300**	**437,000**	**0**	**130,000**	**2,317,300**
5650 Contracts															
National Seminar on policy revision (Component 1)	lumpsum	1	50,000	**50,000**	**0**	**0**	**0**			**50,000**			50,000		**50,000**
Contract for running part of FLR landscape plan investments: setting up and running of coffee field learning schools (Output 2.1.1) - - FDA/To be determined	lumpsum	1	210,000	**0**	**210,000**	**0**	**0**			**210,000**			210,000		**210,000**
Contract for running part of FLR landscape plan investments: setting up and running of rice/legume FFS/FBS (Output 2.1.3) - FDA/To be determined	lumpsum	1	230,000	**0**	**230,000**	**0**	**0**			**230,000**			230,000		**230,000**
Contract for setting up and running of coffee and other VC commodities (NTFP, legumes) FFBI schools (Outputs 2.1.1, 2.1.2 and Output 3.1.1) - SOA	lumpsum	1	206,000	**0**	**132,000**	**74,000**	**0**			**206,000**			206,000		**206,000**
Contract for organizing ToT FFBI training and ToT FLR training (Output 2.1.2 and Output 3.1.1) - ONI	lumpsum	1	64,000	**0**	**32,000**	**32,000**	**0**			**64,000**			64,000		**64,000**
Contract for training, coaching and establishing 12 community-nurseries (Output 2.1.1, Output 3.1.1) - SNGF	lumpsum	1	270,000	**0**	**135,000**	**135,000**	**0**			**270,000**			270,000		**270,000**
Contract for training coaching and investments for KCRS to improve infrastructures and equipment (Output 2.1.1, Output 3.1.1 and Output 3.1.2) - [illegible]	lumpsum	1	100,000	**0**	**20,000**	**80,000**	**0**			**100,000**			100,000		**100,000**
Contract for training, coaching and establishment of community seed-banks (Output 2.1.3) - Seed Multiplication Centers (CMS)/Nat. Agency for Official Seed and Plants Control (ANCOS)	lumpsum	1	156,000	**0**	**156,000**	**0**	**0**			**156,000**			156,000		**156,000**
Contract for training, coaching and PPP development (Outputs 2.11 and 2.1.2) - SFCC	lumpsum	1	150,000	**0**	**150,000**	**0**	**0**			**150,000**			150,000		**150,000**
Communication & KM Agency (Output 4.1.1): Production of Knowledge Management materials (meetings, publications, videos, media news, gingles, etc).	lumpsum	1	132,000	**0**	**0**	**0**	**132,000**			**132,000**			132,000		**132,000**
Audit (1per year per OP)	lumpsum	1	65,000	**0**	**0**	**0**	**0**		65000	**65,000**				65,000	**65,000**
Spot-checks (2 per year per OP)	lumpsum	1	70,000	**0**	**0**	**0**	**0**		70000	**70,000**				70,000	**70,000**
M&E Costs (Mid-term Review (30,000) + Final Evaluation (40,000) + Terminal Report (7,000)	lumpsum	1	77,000	**0**	**0**	**0**	**0**	77000		**77,000**				77,000	**77,000**
5650 Sub-total Contracts				**50,000**	**1,065,000**	**321,000**	**132,000**	**77,000**	**135,000**	**1,780,000**	**0**	**0**	**1,568,000**	**212,000**	**1,780,000**
5021 Travel															
International travel										**0**					
International Travels for experts recruited by MEDD	lumpsum	1	55501	**18,680**	**0**	**36,821**	**0**			**55,501**	55,501				**55,501**
International Travels for experts recruited by MINAE	lumpsum	1	37200	**19,200**	**18,000**	**0**	**0**			**37,200**		37,200			**37,200**
National travel															
National Travels for experts recruited by MEDD	lumpsum	1	138000	**54,000**	**50,400**	**33,600**	**0**			**138,000**	138,000				**138,000**
National Travels for experts recruited by MINAE	lumpsum	1	134000	**54,000**	**80,000**	**0**	**0**			**134,000**		134,000			**134,000**
Participation to Global FOLUR and other International Events	lumpsum	1	60000	**0**	**0**	**60,000**	**0**			**60,000**	30,000	30,000			**60,000**
National travel of M&E staff to monitor the implementation of ILMP interventions under Component 2	lumpsum	1	70000	**0**	**70,000**	**0**	**0**			**70,000**	70,000				**70,000**
5021 Sub-total travel				**145880**	**218400**	**130,421**	**0**	**0**	**0**	**494,701**	**293,501**	**201,200**	**0**	**0**	**494,701**
5023 Training															
National FLR Committee members' periodical meetings (Component 1) (2meetings/year)	unit	10	1700	**10,000**	**0**	**0**	**7,000**			**17000**	17000				**17,000**
PSC meetings (Inception and final workshops included)	Lumpsum	1	15000	**0**	**0**	**0**	**10,000**	5,000		**15000**	15000				**15,000**
Landscape Steering Committee members' periodical meetings (Component 2, Output 2.3.3)	Lumpsum	1	73000	**43,000**	**20,000**	**10,000**	**0**			**73000**	73000				**73,000**
Value Chain Platform members' periodical meetings (Component 2, Output 2.3.3)	Lumpsum	1	80000	**0**	**50,000**	**30,000**	**0**			**80000**	40000	40000			**80,000**
Inception and SC Landscape workshops	Lumpsum	1	40000	**10,000**	**0**	**0**	**30,000**			**40,000**	40,000				**40,000**
Events and workshops with village-level actors to raise awareness, training, planning, formulating community-bylaws, etc (Components 1-2-3).	Lumpsum	1	96000	**16,000**	**55,000**	**25,000**	**0**			**96,000**	96,000				**96,000**
FLR Landscape planning workshops with Landscape Management Committees (Component 1, Outputs 1.1.2 and 1.1.3) (2 workshops x each landscape for launchig and validation)	Lumpsum	1	24000	**24,000**	**0**	**0**	**0**			**24,000**	24,000				**24,000**
Output 1.1.1: Three training workshops x 50 participants x 4 landscapes	Lumpsum	1	24000	**24,000**	**0**	**0**	**0**			**24,000**	24,000				**24,000**
Output 1.1.3: 30 PIA workshops x 1,000 USD x 20 participants	Lumpsum	1	80000	**80,000**	**0**	**0**	**0**			**80,000**	80,000				**80,000**
Output 1.2.2: Policy training workshops	Lumpsum	1	20000	**20,000**	**0**	**0**	**0**			**20,000**	20,000				**20,000**
Output 3.1.3: PES planning workshops	Lumpsum	1	16000	**0**	**0**	**16,000**	**0**			**16,000**	16,000				**16,000**
5023 Sub-total training				**227,000**	**125,000**	**81,000**	**47,000**	**5,000**	**0**	**485,000**	**445,000**	**40,000**	**0**	**0**	**485,000**
5024 Expendable procurement															
Output 2.1.1: Procurement Window for Coffee agroforestry production Investments	Lumpsum	1	1,410,000	**0**	**1,410,000**	**0**	**0**			**1,410,000**	1,410,000				**1,410,000**
Output 2.1.2: Procurement Window for Coffee processing and marketing Investments	Lumpsum	1	540,000	**0**	**540,000**	**0**	**0**			**540,000**	540,000				**540,000**
Output 2.1.2: Procurement Window for targeting manufacturers on locally-adapted coffee VC equipment	Lumpsum	1	60,000	**0**	**60,000**	**0**	**0**			**60,000**	60,000				**60,000**
Output 2.1.3: Procurement Window for SRI/SRA/CA rice/legumes production Investments	Lumpsum	1	1,421,120	**0**	**1,421,120**	**0**	**0**			**1,421,120**		1,421,120			**1,421,120**
Output 2.1.3: Procurement Window for targeting manufacturers on locally-adapted rice/legume VC equipment	Lumpsum	1	75,000	**0**	**75,000**	**0**	**0**			**75,000**		75,000			**75,000**
Output 3.1.1: Procurement Window for investments supporting community-based forest restoration	Lumpsum	1	826,000	**0**	**0**	**826,000**	**0**			**826,000**	826,000				**826,000**
5024 Sub-total expendable procurement				**0**	**3,506,120**	**826,000**	**0**	**0**	**0**	**4,332,120**	**2,836,000**	**1,496,120**	**0**	**0**	**4,332,120**
6100 Non-expendable procurement															
Vehicles (4 4x4 cars + mantainance)	unit	4	35,000	**53,750**	**32,250**	**32,400**	**21,600**			**140,000**	140,000				**140,000**
Vehicles (46 motobikes: 1 x 46 community facilitators)	unit	46	4,300	**0**	**0**	**0**	**197,800**			**197,800**	197,800				**197,800**
Household Survey Equipment (i.e.tablets)	Lumpsum	1	3,000	**3,000**	**0**	**0**	**0**			**3,000**	3,000				**3,000**
Computer, equipment and consumables (software costs included)	Lumpsum	1	59,196	**0**	**0**	**0**	**0**		59,196	**59,196**	47,357	11,839			**59,196**
6100 Sub-total non-expendable procurement				**56,750**	**32,250**	**32,400**	**219,400**	**0**	**59,196**	**399,996**	**388,157**	**11,839**	**0**	**0**	**399,996**
5028 GOE budget															
Office expenses (electricity, water, phone, fuel, etc)	Lumpsum	1	65,000	**0**	**0**	**0**	**0**		65,000	**65,000**	52,000	13,000			**65,000**
6300 Sub-total GOE budget				**0**	**0**	**0**	**0**	**0**	**65,000**	**65,000**	**52,000**	**13,000**	**0**	**0**	**65,000**
TOTAL				**1,119,770**	**5,522,410**	**1,900,461**	**500,280**	**362,000**	**470,196**	**9,874,117**	**5,764,958**	**2,199,159**	**1,568,000**	**342,000**	**9,874,117**
										TRUE	*58%*	*22%*	*16%*	*3%*	

SUBTOTAL Comp 1	**1,118,770**	
SUBTOTAL Comp 2	**5,522,410**	
SUBTOTAL Comp 3	**1,900,461**	
SUBTOTAL Comp 4	**500,280**	
M&E	**362,000**	3.85%
Subtotal	**9,403,921**	
Project Management Cost (PMC)	***470,196***	5.0%
TOTAL GEF	**9,874,117**	

ANNEX F: (For NGI only) Termsheet

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

ANNEX G: (For NGI only) Reflows

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

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

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