GEF-7 CHILD PROJECT CONCEPT

CHILD PROJECT TYPE: FULL-SIZED CHILD PROJECT
PROGRAM: IP FOLU

Child Project Title:	Integrated Landscape Management for zero-deforestation coffee and rice value chains in the Central South and Eastern coast of Madagascar
Country:	Madagascar
Lead Agency	FAO
GEF Agency(ies):	FAO

PROJECT DESCRIPTION

- Country Context (*maximum 500 words*)

Describe the country's relevant environmental challenges and strategic positioning relative to the systems transformation proposed for the program, including relevant existing policies, commitments, and investment frameworks. How are these aligned with the proposed approach to foster impactful outcomes with global environmental benefits?

Madagascar is one of the 34 global biodiversity hotspots. The forests of this large island nation harbor a high number of endemic, endangered or vulnerable plant and animal species. Some widely traded food commodities also naturally occur in Madagascar: of the 124 known coffee species, 61 can be found in its forests and 47 are threatened of extinction. Preserving these species is essential for the future of the coffee industry. The forests of Madagascar are of outmost importance to the world's biodiversity and to the resilience of our globalized food systems. They are however 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 the Malagasy people on natural resources for their subsistence is threatening both their environment and livelihoods.

Aware of the urgency to protect these natural resources, Madagascar is committed to slow 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). GoM's 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) 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.

One of the main causes of agricultural encroachment is the unsustainable practice of slash and burn "*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 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. Of particular relevance to that project:

> **i) Rice (followed by cassava and maize) 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"). With an average yield of 2.45 tons per ha (highly variable across regions), 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 public and private sector collaborate under the auspices of a dedicated coordination platform (PCP-Rice). 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.

> **ii) 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 the Central South and Eastern Coast (7 regions) and in the North (1 region) 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 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) and productivity in decline, a trend exacerbated by climate change, and 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 coffee sector globally 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 harbors the unique collection worldwide of coffee trees under natural forest cover in the FOFIFA since the 1960s.

Limiting agricultural encroachment as well as other major degradation drivers (logging for charcoal and fuelwood in particular, mining) over the forests of Madagascar 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, World Bank project on rice intensification in preparation) but much remains to do to help minimize environmental impact and enhance resilience to climate change. On the other hand, pervasive global markets for renowned commodities (e.g. cacao, coffee) influence Malagasy farmers' behaviors 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.

Only an integrated approach tackling simultaneously the different drivers of degradation can help meeting 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 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). 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 targeted landscape.

- Project Overview and Approach (*maximum 1250 words*)

    a) Provide a brief description of the geographical target(s), including details of systemic challenges, and the specific environmental threats and associated drivers that must be addressed;

The total area of the landscape covers about 7,876,000 ha of mixed land use (see annex 1), including about 306 000 ha under rice cultivation (217 300 ha (71%) irrigated, 72 500 ha (24%) slash-and-burn and 16 200 ha (5%) rain-fed) and 84,700 ha under coffee cultivation mostly located in the island's humid forests ecoregion in agroforestry systems. Within this large landscape, project interventions will directly target approximately 30,000 ha, including areas showing important (10,000 ha) or early (20,000 ha) signs of land productivity decline.

The target landscape has a very high environmental value. It harbors 11 Protected Areas (PAs) which are all included in the KBA list. These PAs extend over approximately 560,000 ha of which 78% (6 protected areas) belong to IUCN categories V and VI, among which the Ambositra –Vondrozo Forest Corridor (COFAV) and the Ankeniheny-Zahamena Corridor (CAZ). The humid forests of Ranomafana National Park are classified as a UNESCO World Heritage Site. The wetlands of Nosivolo river are a Ramsar site. The landscape is an emblematic reservoir of global biodiversity that is at threat. More than 70% of plants are endemic and threatened, such as rosewoods (*Dalbergia* spp.) and palms (*Dypsis interrupta*, *Leptolaena abrahami*). The only collection of wild coffee trees under plant cover in the world is located in the landscape, in the Kianjavato research station, which is home to 48 endemic species of wild coffee trees, including in particular the *Mascarocoffea* group known worldwide as a coffee without caffeine but which are threatened (e.g. *Coffea kianjavatensis*). The sole collection of arabica coffee in Madagascar can be found in the Sahambavy substation. The landscape is also home to the largest number of species and populations of lemurs in Madagascar and around the world, such as e.g. *Propithecus diadema* or *Varecia variegata variegata*. From this landscape originate about fifty hydrographic networks which play an important role in agriculture, water and electricity supply and as a natural distribution barrier for lemurs, including Mangoky, which is the largest river and watershed in Madagascar (with 714 km long and 55,884 km² in area).

However, the landscape is critically affected by a number of intertwined challenges. Poverty (80% of farmers *vs*. 74% at national scale), food insecurity (32% of households vs. 31% at national scale) and chronic malnutrition (57% of children under 5 years old, vs. 47% at national scale) are critically affecting local communities in the target area who largely depend on agriculture for their livelihoods (80% of population). The widespread practice of slash-and-burn ("*tavy*") agriculture in the region (over 40% of cropland), especially for rice cultivation, is the main cause of the high deforestation rate across the landscape (between 0.21% - 1.66% per year per region *vs*. 1.50% at national scale), along with mining, logging for fuelwood and charcoal, and bush fires. Tenure insecurity, characterized by the predominance of customary rights, and the high cost of the formal acquisition of land are increasing smallholders' vulnerability and largely preventing private sector investments. The landscape is vulnerable to climate change and hazards that have caused over the recent years (according to the National Adaptation Plan: higher intensity of tropical storms, extended droughts, increase in average temperature in the drought period).

Rice farming (rain-fed or irrigated depending on the areas) is largely present in the landscape, 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 rice 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. Fruit crops and industrial cash crops are predominant towards the East of the landscape, which is rice-deficient and imports rice from other regions, whereas rice is the main production in the central South and impacts particularly the natural forests of the region of Atsinanana. 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.

Most of Madagascar's coffee (67%) is produced in the target landscape. Whereas the high-value arabica coffee (which represents less than 5% of the current national production) can be grown in the 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 (beans, groundnut, "pois de terre"), rainfed rice, cassava, vegetables (cabbage, potato, etc.) 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 disastrous economic consequences, numerous coffee plantations have been converted into fields of food crops (rice, cassava, corn, etc.) for self-subsistence. However, in the absence of additional cash crops revenues, the vulnerability of households to rice shortages has increased and is particularly strong in this rice-deficient region.

Some local forest concessions (mostly *Eucalyptus* and *Pinus*) sell construction wood and fuelwood. Apiculture is also practiced in reforested areas or agroforestry fields, particularly in the Amoron'i Mania and Haute Matsiatra Regions.

    b) Describe the existing or planned baseline investments, including current institutional framework and processes for stakeholder engagement and gender integration;

The project builds on and is fully aligned with national and sub-national strategies, including:

- **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, including to rice and coffee in particular**: the Sector Program on Agriculture, Livestock and Fisheries (PSAEP: 2016 - 2020) which includes a programme on the rationale and sustainable use of productive areas and the improvement of access to national markets and repositioning of exports; the Rice Development Policy (PDR), the National Rice Development Strategy (SNDR: 2009-2020), the 2015 National Strategy for Mechanization of the Rice Sector in Madagascar (SNRM) and the National Strategy on Rice Seeds; the national action plan for the coffee sector, developed in 2017, as part of Madagascar's National Green Export Assessment (ENEV), which scrutinizes the coffee value chain, from planting to marketing, along with governance and institutional arrangements needed; the National Strategy and Action Plan on Plant Genetic Resources for Food and Agriculture (RPGAA: 2018 - 2025), aimed at contributing to the adaptation of agriculture to climate change for development agriculture and food security for the current population and the future generation;
- **Environment and natural resources management frameworks:** the National Strategy for Forest Landscapes Restoration and Green Infrastructures (SNRPF: 2017 - 2030), that includes, as priority, the restoration of 500,000 ha of agroforestry landscapes through agricultural plantations;
- **Cross-sectoral policies and strategies and decentralization and integrated landscape management frameworks**: the general principles for regional and national planning of the territory (through law No. 051/2015); Regional Development Plans (PRD) which highlight the reduction of deforestation through the promotion of agricultural growth preserving the environment, the development and intensification of promising sectors as well as the implementation of quality policy exported products (coffee growing being among the promising or potential sectors in the selected areas); and Development plans and the Environmental and Social Management Plans (ESMP) of areas of specific importance, where coffee growing is recommended as part of the measures to be developed in buffer zones in compensation for the restriction of access to resources in protected areas.
- **Rio conventions strategies:** the National Biodiversity Strategy and Action Plans (NBSAP: 2015-2025) which includes among its strategic objectives the restoration of at least 15% of degraded ecosystems; the Nationally Determined Contribution (NDC, 2016) aimed at reducing GHG emissions of 30 Mt CO2eq by 2030 through arboriculture development (5 000 ha per year from 2018), conservation agriculture and climate-smart agriculture; the National Adaptation Plan (NAP, signed in 2019) encourages implementation of climate-smart agriculture practices; the National REDD + Strategy (2018-2030) which promotes the development and efficient use of land and rural areas as well as the development of alternatives to unsustainable agricultural practices;
- **Export and trade strategies and agreements:** ; Madagascar Export Strategy for Industry and Services (SEMIS: 2016) aimed at product diversification, the promotion of inclusive and efficient value chains led by local champions as well as the creation of added value and promotion of a strong image of Malagasy production; membership to the Indian Ocean Commission (COI), the Common Market for East and Southern Africa (COMESA) and the Southern African Development Community (SADC) (both Free Trade Areas since respectively 2000 and 2008); signature of the United Nations Convention on Trade and Development (UNCTAD), the Cotonou Agreement, and an Interim Economic Partnership Agreement with the European Union in 2009, and the 7th International Coffee Agreement (ICA) in 2009, aimed at strengthening the global coffee sector and promoting a sustainable coffee value chains for the benefit of all stakeholders and particularly of small-scale farmers in coffee producing countries such as Madagascar.

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. 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 proposed FOLUR Country Project can 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.

Baseline investments include:
- **The DEFIS programme promotes an inclusive agriculture for 10 years (IFAD, 2019-2028) in Southern Madagascar** (including in the targeted regions of Amoron'i Mania and Haute Matsiatra). It aims to transform the family-based agricultural sector through the adoption, at scale, of high-performing and resilient production systems for rice, maize, cassava, peanuts, small ruminants, coffee and honey and the integration of family agricultural enterprises in profitable value chains. The DEFIS programme will focus on improving the resilience of key value chains in light of climate change impacts, while the FOLUR project will look at a landscape approach through integrated planning process, while focusing on value-addition of nature-based products which will improve biodiversity conservation and land restoration.
- **The European Union project on sustainable agriculture intensification and climate-change adaptation**. This major investment into agricultural production, foreseen to start in 2022, will be focused on increasing agricultural productivity throughout Madagascar in the wake of climate change. This large-scale investment will enable the country meeting the combined challenges of food security, nutrition and climate-change adaptation. In this context, the FOLUR project will focus on enhancing land use planning with expected positive impacts on natural resources management and biodiversity conservation.
- **World Bank project on rice intensification**. This major investment into the rice sector is foreseen to start in 2022, in full alignment with the timeline of the FOLUR project. It will represent the most important national investment into the rice sector, with an estimated amount of about 100 million USD. That World Bank project would build on and reinforce other important ongoing initiatives, such as the nation-wide project PAPRIZ3 on rice industrialization supported by JICA, launched in September 2020 for a duration of 5 years, working specifically to enhance producers' organizations, facilitate access to agricultural inputs (including quality seeds), support mechanization and post-harvest improvements. The FOLUR project will build on and reinforce these initiatives by linking intensification of rice production and conservation of forests and other biodiversity-rich areas through integrated land use planning and management.

The project will also build on the projects already under implementation by the Ministry of Agriculture, Livestock and Fisheries (MAEP) and Ministry of Environment and Sustainable Development (MEDD) with support from a number of development partners, including e.g. African Development Bank, French Development Agency, European Union, IFAD, World Bank, Conservation International and GIZ.

In addition, the project will engage with the coffee private sector players, which will be essential partners to the project to improve the value chain. This value chain development will include e.g.: identification and dissemination of good practices; supporting commercialization and profitability analysis; implementation of partnership arrangements for land management and exploitation; securing private investments; supporting development of certification; and promoting upscaling and improved linkage to markets (both domestic and international). Private sector partners that could be engaged include: **private partners** (e.g. Akesson group (coffee processor), TAF company (coffee trading), Sangany Café (IDH-supported initiative for inclusive and enhanced supply chains), Ambatovy (mining)) will be involved. Examples of stakeholders who could be targeted by the interventions or contribute to their implementation include:
- 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 Café, an IDH-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;

- Stakeholders involved in organic agriculture, such as the Malagasy syndicate for organic agriculture (SYMABIO), fertilizers producers (Guanomad, Madacompost, Ze.O. Compost);

- Certification companies: Ecocert Group, Rainforest Alliance, Fair Trade Africa or Fair Trade International ;

Depending on opportunities identified during PPG phase, other private operators could be involved to foster the development of innovative partnerships (e.g. with mining operators: Ambatovy (nickel), cooperatives and federations of mining operators) and financing of restoration in the landscape and throughout the country (e.g. banking and microfinance agencies: Caisses d'Epargne et de Crédit Agricole Mutuels (CECAM), ACEP, OTIV, TIAVO).

c) Describe how the integrated approach proposed for the child project responds to and reflects the Program's Theory of Change, and as such is an appropriate and suitable option for tackling the systemic challenges, and to achieve the desired transformation with multiple global environmental benefits; and

In the targeted landscape, degradation levels (SDG 15.3.1) are evident as can be clearly seen in maps (Annex 1) and articulated in key documents. With a growing local demand for food crops (rice, cassava) and a growing global demand for coffee and other cash crops produced in the area, the situation is expected to worsen and there is need for intervention to ensure that this does not happen at the expense of important forest ecosystems in the area. The selected landscape is a mosaic that offers the possibility to apply an integrated land use planning approach, especially to reconcile conflicting interests of commercial and subsistence agriculture, mining and forestry sectors, thus directly contributing to the 3 IP objectives:

1. The project will "promote sustainable food systems to meet global demand" (IP objective 1), by empowering farmers with environmentally friendly and climate-smart practices for rice and other key food crops and coffee production and structuring producers' organizations.
2. The project will "promote deforestation-free agricultural commodity supply chains to slow down loss of tropical forests" (IP objective 2). It will do so by strengthening the overall coffee and rice value chains (see below) from producer to buyer, and by reducing deforestation caused by agricultural encroachment thanks to improvements in land productivity, especially for rice production, which is the main deforestation driver in the selected landscape.
3. The project will "promote restoration of degraded landscapes for sustainable production and to maintain ecosystem services" (IP objective 3) in productive landscapes and in areas of critical importance for biodiversity conservation (including vicinity of the Amoron'i Mania and Haute Matsiatra Regions, Corridor Fandriana-Marolambo National Park, Ranomafana National Park, forested or historically forested forest zones near Ambositra including the Ankazomivady forests).

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, especially on other farm plots, by improving the productivity and sustainability of pre-existing coffee plantations and associated cash crops (e.g. fruits, cloves, vanilla, or pepper). The combination of both interventions will improve self-reliance at farm-level and resilience to climate variability and markets 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 chain towards certified and traceable products (for rice and coffee), reducing further risk of deforestation, and restoring degraded forest landscapes.

Integration across conservation and production objectives supported by the project at farm level will be scaled up through a comprehensive and multi-purpose land use planning at decentralized levels, from local to national scale. A comprehensive ILM framework exist in Madagascar with a decentralization policy including instruments for local community empowerment such as the GELOSE law; the preexistence of national, regional and local development plans, respectively PND, PRD and PCD; and of territorial planning at national and regional levels with PNAT and SRAT. Building on these and on planned efforts to develop guidance materials for their implementation of those frameworks, the GEF7 FOLUR project will enable the negotiation of trade-offs across sectors (especially agriculture, mining and environment) and stakeholders (smallholders vs large landowners), based on scientific evidence on degradation trends in the landscape, as well as opportunities for restoration and biodiversity conservation. Land use planning will be applied at all scales, on biophysical and jurisdictional boundaries. ILM combined with the clarification of tenure and rights, and the development of fair and inclusive public-private partnerships, will showcase that an integrated vision of landscape development can bring benefits to all stakeholders.

Good practices for land use planning will be scaled up at national levels through relevant committees and platforms, and their mainstreaming will be generalized through work on the enabling environment, including laws, policies and market incentives. Beyond integration at landscape level and across decentralized and national scales, integration will also happen throughout the coffee value chain, as work will be focused on improvements at each link. Producers' organizations will be strengthened and jobs created, agreements along the value chain will be negotiated, and certification will be streamlined. Enhanced transparency/traceability will facilitate certification and benefit all value chain stakeholders to get 'fairer' price while ensuring sustainability aspects.

The project will contribute to the generation of the following GEBs:
- **Biodiversity**: Conservation of globally important biodiversity and safeguarding biodiversity and key agroecosystems to support sustainable agriculture such as through pollination, biological pest control, or genetic diversity of existing coffee wild species within natural and agroecosystems in Madagascar.
- **CCM**: Land based and value chain GHG mitigation – through climate smart agriculture and forest and landscape restoration good practices; innovative soil management technics that increase carbon storage in farmlands.
- **LD**: SLM, Restoration of degraded soils, lands and productive ecosystems, LDN.

In particular, 35,000 hectares of degraded forests and landscapes will be directly targeted thus sustainably improving food systems, livelihoods and incomes of 30,000 people including 15,000 women (core indicator 11). With 10,000 hectares of land restored and 25,000 hectares of land under improved practices, in particular in (specific area to be targeted), the project will contribute to indicator 3 and 4. During PPG the exact amount of emissions which will be directly sequestered and avoided will be more precisely calculated through Ex-Act MRV toolkit. (Core Indicator 6). At this stage of knowledge of the targeted restoration sites we estimate that the project will contribute to sequester 3.5 million tons of CO_2eq and avoid emissions of 3.0 million tons of CO_2eq (core indicator 6).

d) Describe the project's incremental reasoning for GEF financing under the program, including the results framework and components.

Agriculture, and especially unsustainable slash-and-burn agricultural practices, 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. COVID-19 sharply reduced economic growth in Madagascar (1.2% instead of the expected 5.5% during first semester of 2020) and affected the purchasing power of households. Forest resources

exploitation by riparian communities intensified, affecting especially Bioversity-rich protected areas. **Food production, especially for rice, 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 would e.g. include improved land-use planning to protect trees in the landscape, the promotion agroforestry in the rice landscapes, water management improvement and the reduction of GHG emissions through the promotion of climate smart practices).

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. Challenges associated with the foreseeable expansion of coffee production in Madagascar are twofold, as the country will simultaneously need to support the development of an inclusive, climate-resilient and deforestation-free coffee value chain, and to protect the natural coffee landscape that guarantees the quality and future of the world's coffees (e.g. *bourbon pointu* and *arabica elita*, and species with lower caffeine content). 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 with the highest opportunities for expanding VSS-compliant coffee production for multiple benefits.

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.
1. Large-scale implementation of Integrated Landscape Management (ILM) throughout the landscape thanks to the FOLUR project will enable articulating the intertwined challenges of production and conservation objectives into practical, negotiated and actionable land use plans.
2. By improving agricultural practices in the landscape of the Central South and Eastern coast of Madagascar, the project will support adapting rice production and coffee plantations to a changing climate, making them more productive and resilient to future hazards, and will sustainably intensify agricultural practices in associated systems, for improved yields, income and nutrition. Project interventions aimed at enhancing the coffee value chain will strengthen the premium market positioning of Malagasy coffee while further improving its environmental and social value. The project will foster the development of a fair and inclusive coffee value chain by improving practices, strengthening capacities and leveraging funding through untapped financing sources.
3. The project will also restore degraded areas with a variety of tailored interventions, including to alleviate the pressure of local communities on protected forests for fuelwood and charcoal. It will also work in areas where coffee growing represents an opportunity for restoration as highlighted by the National Forest Landscape Restoration Strategy, as well as areas where endemic coffee species are at threat, and promote alternative livelihood sources in support of restoration of degraded areas.
4. All knowledge generated will be capitalized and impacts captured through regular M&E efforts. The upscaling potential will be harnessed through actions on the enabling environment and finance mobilization. With Madagascar participation in the FOLUR IP, the potential to transform the coffee commodity system and to anticipate its expected impacts on the forests of Madagascar is enormous, at country-scale but also throughout the region, given the possibility to cluster with other FOLUR IP countries.

- Engagement with the Global / Regional Framework (*maximum 500 words*)

  Describe how the project will align with the global / regional framework for the program to foster knowledge sharing, learning, and synthesis of experiences. How will the proposed approach scale-up from the local and national level to maximize engagement by all relevant stakeholders and/or actors?

Knowledge sharing, learning and synthesis of experiences is directly built into the project as one of its four components, with the critical purpose to enable upscaling of successes and learning from failures throughout project implementation and beyond. The project will catalyze knowledge sharing from the bottom up (from the landscape to the national, regional and global levels), from the top down (from global to landscape), and horizontally (across peers in neighboring 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 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 and Tanzania for rice, as well as the Sustainable Rice Landscapes countries in Asia (Thailand, Indonesia, Vietnam, Cambodia non-FOLUR, and hopefully China). Coordination and engagement mechanisms with other FOLUR national child projects focused on coffee and, whenever relevant, rice, will be detailed at PPG stage following consultations with other FOLUR partners and beneficiary countries.

The project will take advantage of K2A services under Pillar A, B and C 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. Coalition for African Rice Development (CARD), Competitive African Rice Initiative (CARI), Sustainable Rice Platform (SRP) and FAO's the Sustainable Rice Landscape Initiative (Sustainable Rice Landscapes Consortium) in Asia-Pacific), 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 programme 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.

A number of tools and approaches will be used to foster learning, knowledge exchange and cooperation among practitioners. At landscape level, the project will use proven methods for participation and engagement of local stakeholders, such as the Restoration Opportunities Assessment Methodology (ROAM) to develop integrated landscape management plans. The project will also rely on participatory, people-centered methods for learning, e.g. Farmer Field Schools (FFS), and for disseminating information, e.g. Club Dimitra. More classic approaches, like exchange visits, will be used to strengthen linkages with ongoing efforts (in particular baseline projects) and to highlight past successes. Lessons learnt from local implementation will be institutionalized in the departmental planning processes, and will feed into the national cross-sectoral platform for FLR and into the above mentioned regional and global online Communities of Practice, that will uptake and further disseminate within their own countries the fruits of those exchanges.

- Current status of COVID-19 in Madagascar and potential implications on the proposed FOLUR project

Madagascar's officially confirmed/ reported COVID-19 cases as of 11 October 2020 (WHO situation report) is 16 704 persons. A state of health emergency has been declared in front of the spread of the pandemic. It was accompanied by different restrictive measures, mainly on transportation (notably closing of national and international boarders). These restrictive measures affect agriculture and its particular its commercialization system: the flows of products are disturbed, the supply of agro-industries is limited, and producers' storage capacities are limited, especially for perishable products. Exports are decreasing while imports remain stagnant. The financial situation of agricultural-dependent households impact their purchasing and selling power and their food and nutrition security. The increase of unemployment and the impact of monetary depreciation on the price of imported food products are worsening the situation. Commercial production doesn't procure the expected revenues because of dramatic price drops during the pandemic. Besides, insecurity is increasing under multiple forms, including theft of agricultural and food products. The loss of jobs and of alternative sources of incomes triggered migrations from cities towards agricultural areas, in order to meet basic food needs. The restriction of movement has affected services and social sectors like tourism, hospitality and catering industries. The pandemic has the potential to spark up a food security crisis in country, which would have disproportionate impacts in areas already characterized by persistent hunger and malnutrition. In the short and medium terms, donor-supported initiatives in Madagascar, including GEF and FOLUR projects, are also likely to suffer operational impacts from the crisis.

The table below lists the potential implications of the COVID-19 pandemic to the FOLUR project in Madagascar and proposes risk mitigation measures:

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-related economic downturn, and/or the reorientation of available funding to actions directly related to COVID - Government expenditure and prioritization of different programs and sectors, including agriculture, food security and natural resources might change.	- Thorough discussion with co-financiers (including government) during the PPG stage 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 food security (emphasis on rice production) and agribusiness development (especially coffee value chain) for vulnerable communities in areas already impacted by climate risks and hazards. However, project activities will be further discussed with the Government to ensure that emerging priorities and responses, as result of the pandemic, are well reflected in the project's target areas.
Implications during PPG roll-out		
Short to medium term	- Reduced involvement by Governments and other partnership actors in project activities during PPG stage - Reduced opportunities for face-to-face interactions with project beneficiaries, for consultation, participation, validation and representation, due to social distancing	- Review and potential adjustment of implementation and partnership arrangements in the short and medium term. - The ProDoc work plan will be adjusted to reflect possible challenges related to COVID-19 as well as for interactions and/or changes to the media and methodologies used for the interactions (for example using remote communication where possible, and/or limiting number of physical participants – which may potentially require relying more on the participation of limited numbers of stakeholder leaders in representation of their constituencies). This will also include taking into consideration whether the effectiveness of the

		representation of certain stakeholder sectors (e.g. women, the poor, indigenous peoples) may be disproportionately affected by these changes. • Risk matrix will be expanded to cover COVID-19 impacts and the project's theory of change will be formulated in consideration of COVID-19 during the PPG stage
Implications for project activities (on the ground)		
Short to medium term	• Potential or partial disruption of food system logistics is anticipated • Increased losses and spoilage in high value commodities/perishables (fruits, vegetables) • Disruption of markets, due to temporary closure of hotels and restaurants which are the main buyer of fruit and vegetables for tourists • Storage infrastructures cannot maintain products for a long period of time. Quality food products (including cash crops such as coffee) are lost.	• 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 barriers and establish feasible options • Development of infrastructures for collection and storage of agricultural products • Support producers organizations in linking with export markets and encourage use of online markets • Agricultural diversification for healthier diets. With the spread of the pandemic, consumers are becoming more aware of the role of food for stronger immune systems.

Annex A: GEF 7 Core Indicator Worksheet

Core Indicator 1	Terrestrial protected areas created or under improved management for conservation and sustainable use					
		Hectares (1.1+1.2)				
		Expected		Achieved		
		PIF stage	Endorsement	MTR	TE	
Indicator 1.1	Terrestrial protected areas newly created					
Name of Protected Area	WDPA ID	IUCN category	Hectares			
			Expected		Achieved	
			PIF stage	Endorsement	MTR	TE
		(select)				
		(select)				
		Sum				
Indicator 1.2	Terrestrial protected areas under improved management effectiveness					
Name of Protected Area	WDPA ID	IUCN category	Hectares	METT Score		
				Baseline	Achieved	
				Endorsement	MTR	TE
		(select)				
		(select)				
		Sum				
Core Indicator 2	Marine protected areas created or under improved management for conservation and sustainable use					*(Hectares)*
		Hectares (2.1+2.2)				
		Expected		Achieved		
		PIF stage	Endorsement	MTR	*TE*	
Indicator 2.1	Marine protected areas newly created					
Name of Protected Area	WDPA ID	IUCN category	Hectares			
			Expected		Achieved	
			PIF stage	Endorsement	MTR	TE
		(select)				
		(select)				
		Sum				
Indicator 2.2	Marine protected areas under improved management effectiveness					
Name of Protected Area	WDPA ID	IUCN category	Hectares	METT Score (Scale 1-3)		
				Baseline	Achieved	
				PIF stage	Endorsement	MTR	TE
		(select)				
		(select)				
		Sum				
Core Indicator 3	Area of land restored					*(Hectares)*
		Hectares (3.1+3.2+3.3+3.4)				
		Expected		Achieved		
		PIF stage	Endorsement	MTR	TE	
		10,000				
Indicator 3.1	Area of degraded agricultural land restored					
		Hectares				
		Expected		Achieved		
		PIF stage	Endorsement	MTR	TE	
		5,000				
Indicator 3.2	Area of forest and forest land restored					
		Hectares				
		Expected		Achieved		
		PIF stage	Endorsement	MTR	TE	
		5,000				
Indicator 3.3	Area of natural grass and shrublands restored					
		Hectares				
		Expected		Achieved		
		PIF stage	Endorsement	MTR	TE	

Indicator 3.4 — Area of wetlands (including estuaries, mangroves) restored

Hectares			
Expected		Achieved	
PIF stage	Endorsement	MTR	TE

Core Indicator 4 — **Area of landscapes under improved practices (hectares; excluding protected areas)** — *(Hectares)*

Hectares (4.1+4.2+4.3+4.4)			
Expected		Expected	
PIF stage	Endorsement	MTR	TE
25,000			

Indicator 4.1 — Area of landscapes under improved management to benefit biodiversity

Hectares			
Expected		Achieved	
PIF stage	Endorsement	MTR	TE
20,000			

Indicator 4.2 — Area of landscapes that meet national or international third-party certification that incorporates biodiversity considerations

Third party certification(s):

Hectares			
Expected		Achieved	
PIF stage	Endorsement	MTR	TE
5,000			

Indicator 4.3 — Area of landscapes under sustainable land management in production systems

Hectares			
Expected		Achieved	
PIF stage	Endorsement	MTR	TE

Indicator 4.4 — Area of High Conservation Value Forest (HCVF) loss avoided

Hectares			
Expected		Achieved	
PIF stage	Endorsement	MTR	TE

Core Indicator 5 — **Area of marine habitat under improved practices to benefit biodiversity** — *(Hectares)*

Indicator 5.1 — Number of fisheries that meet national or international third-party certification that incorporates biodiversity considerations

Third party certification(s):

Number			
Expected		Achieved	
PIF stage	Endorsement	MTR	TE

Indicator 5.2 — Number of large marine ecosystems (LMEs) with reduced pollution and hypoxial

Number			
Expected		Achieved	
PIF stage	Endorsement	MTR	TE

Core Indicator 6 — **Greenhouse gas emission mitigated** — *(Tons)*

	Tons (6.1+6.2)			
	Entered		Entered	
	PIF stage	Endorsement	MTR	TE
Expected CO2e (direct)	6,500,000			
Expected CO2e (indirect)				

Indicator 6.1 — Carbon sequestered or emissions avoided in the AFOLU sector

	Tons			
	Entered		Entered	
	PIF stage	Endorsement	MTR	TE
Expected CO2e (direct)	6,500,000			
Expected CO2e (indirect)				

		Anticipated Year				
Indicator 6.2	Emissions avoided					
			Hectares			
			Expected		Achieved	
			PIF stage	Endorsement	MTR	TE
		Expected CO2e (direct)				
		Expected CO2e (indirect)				
		Anticipated Year				
Indicator 6.3	Energy saved					
			MJ			
			Expected		Achieved	
			PIF stage	Endorsement	MTR	TE
Indicator 6.4	Increase in installed renewable energy capacity per technology					
			Capacity (MW)			
		Technology	Expected		Achieved	
			PIF stage	Endorsement	MTR	TE
		(select)				
		(select)				
Core Indicator 7	**Number of shared water ecosystems (fresh or marine) under new or improved cooperative management**					*(Number)*
Indicator 7.1	Level of Transboundary Diagnostic Analysis and Strategic Action Program (TDA/SAP) formulation and implementation					
		Shared water ecosystem	Rating (scale 1-4)			
			PIF stage	Endorsement	MTR	TE
Indicator 7.2	Level of Regional Legal Agreements and Regional Management Institutions to support its implementation					
		Shared water ecosystem	Rating (scale 1-4)			
			PIF stage	Endorsement	MTR	TE
Indicator 7.3	Level of National/Local reforms and active participation of Inter-Ministerial Committees					
		Shared water ecosystem	Rating (scale 1-4)			
			PIF stage	Endorsement	MTR	TE
Indicator 7.4	Level of engagement in IWLEARN through participation and delivery of key products					
			Rating (scale 1-4)			
		Shared water ecosystem	Rating		Rating	
			PIF stage	Endorsement	MTR	TE
Core Indicator 8	**Globally over-exploited fisheries Moved to more sustainable levels**					*(Tons)*
			Metric Tons			
			PIF stage	Endorsement	MTR	TE
Core Indicator 9	**Reduction, disposal/destruction, phase out, elimination and avoidance of chemicals of global concern and their waste in the environment and in processes, materials and products**					*(Tons)*
			Metric Tons (9.1+9.2+9.3)			
			Expected		Achieved	
			PIF stage	PIF stage	MTR	TE
Indicator 9.1	Solid and liquid Persistent Organic Pollutants (POPs) and POPs containing materials and products removed or disposed					
			Metric Tons			
	POPs type		Expected		Achieved	
			PIF stage	Endorsement	MTR	TE
(select)	(select)	(select)				
(select)	(select)	(select)				
(select)	(select)	(select)				
Indicator 9.2	Quantity of mercury reduced					

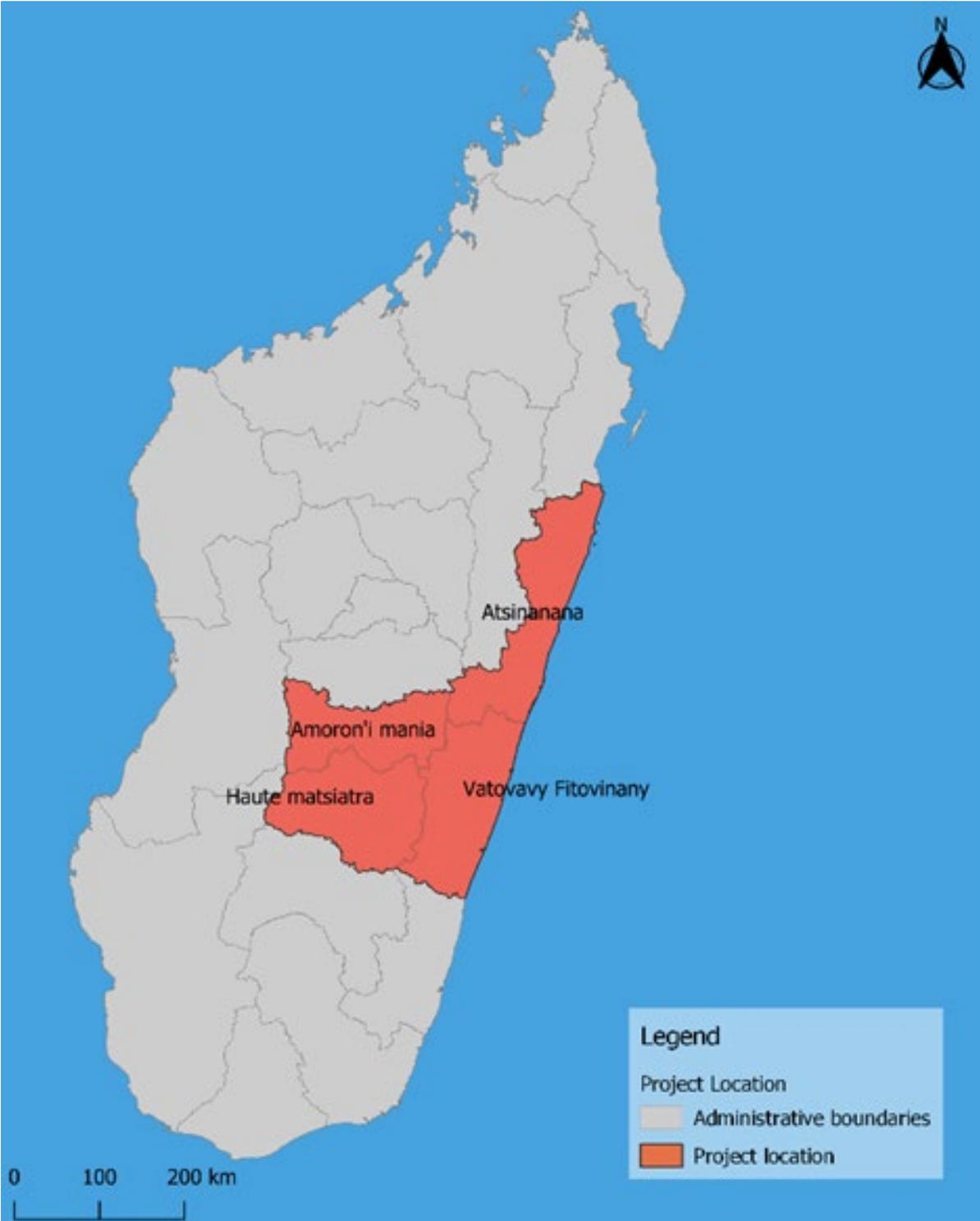|			Metric Tons			
			Expected		Achieved	
			PIF stage	Endorsement	MTR	TE
Indicator 9.3	Number of countries with legislation and policy implemented to control chemicals and waste					
			Number of Countries			
			Expected		Achieved	
			PIF stage	Endorsement	MTR	TE
Indicator 9.4	Number of low-chemical/non-chemical systems implemented particularly in food production, manufacturing and cities					
		Technology	Number			
			Expected		Achieved	
			PIF stage	Endorsement	MTR	TE
Core Indicator 10	**Reduction, avoidance of emissions of POPs to air from point and non-point sources**					***(Grams)***
Indicator 10.1	Number of countries with legislation and policy implemented to control emissions of POPs to air					
			Number of Countries			
			Expected		Achieved	
			PIF stage	Endorsement	MTR	TE
Indicator 10.2	Number of emission control technologies/practices implemented					
			Number			
			Expected		Achieved	
			PIF stage	Endorsement	MTR	TE
Indicator 10.3	Number of countries with legislation and policy implemented to control chemicals and waste					
			Number of Countries			
			Expected		Achieved	
			PIF stage	Endorsement	MTR	TE
Core Indicator 11	**Number of direct beneficiaries disaggregated by gender as co-benefit of GEF investment**					
					Number Achieved	
			PIF stage	Endorsement	MTR	TE
		Female	15,000			
		Male	15,000			
		Total	*30,000*			

ANNEX 1 - Maps of the selected landscape

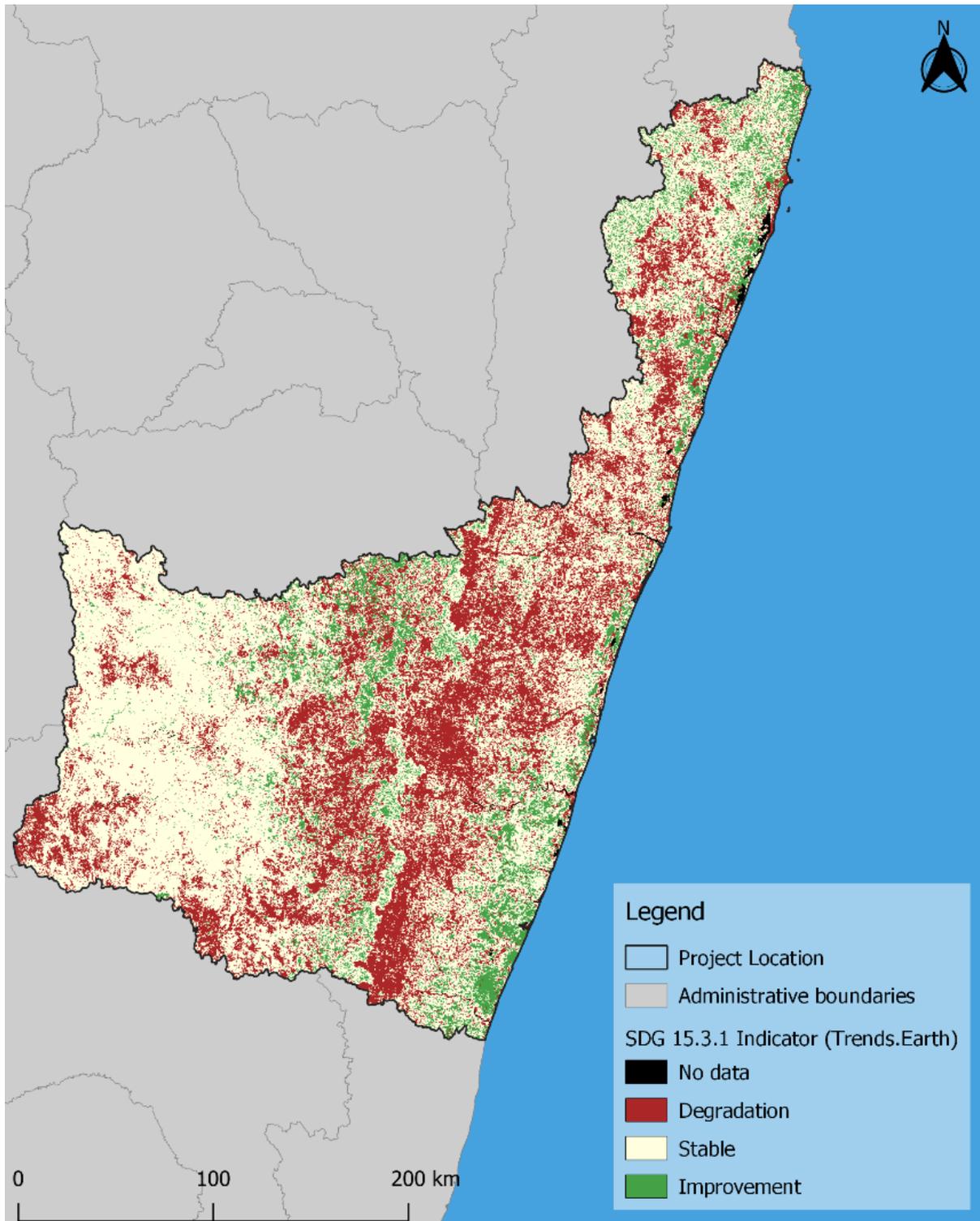Figure 1. Selected landscape (FAO, 2020)
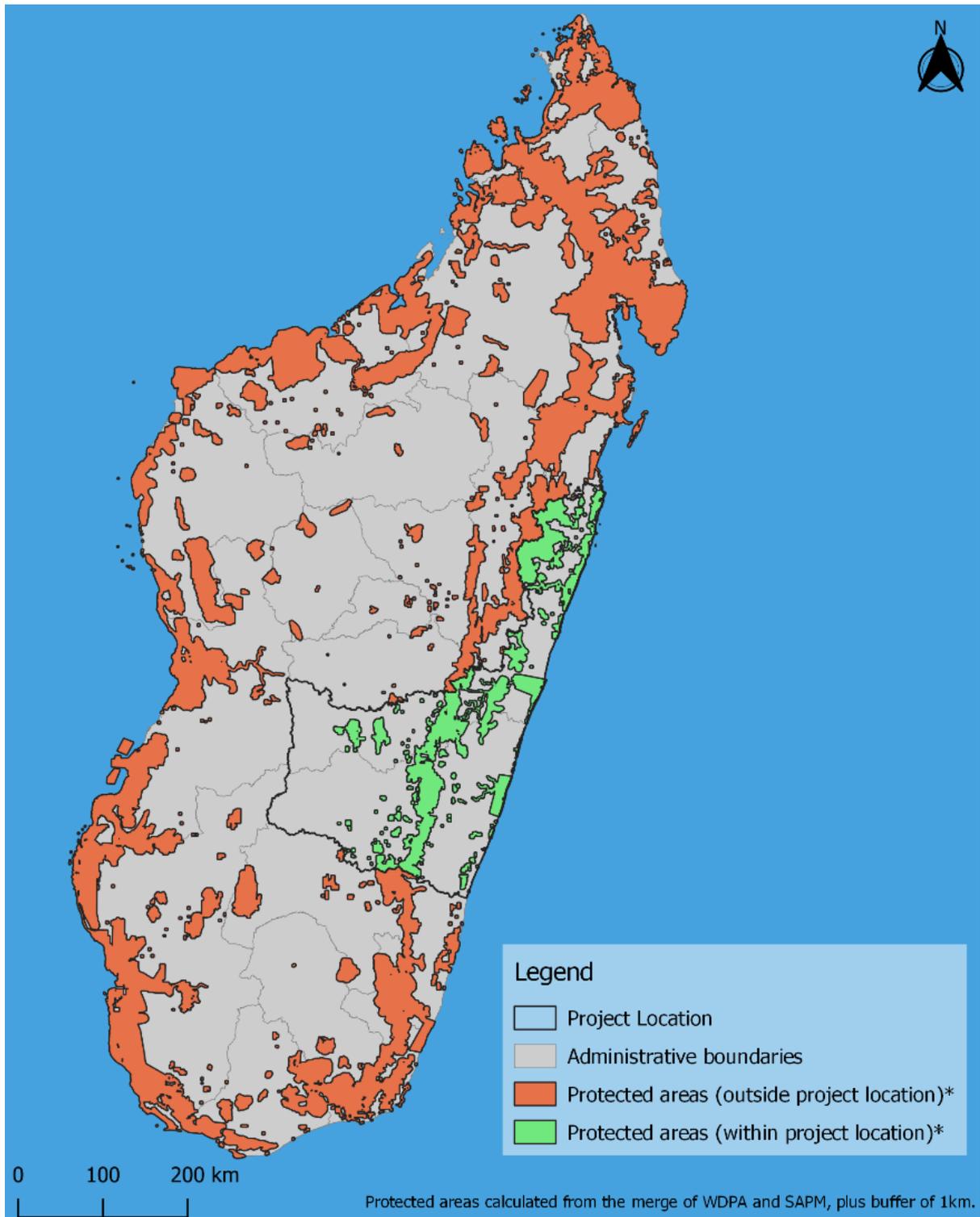
Figure 2. Degradation map in selected landscape (FAO, 2020)

Figure 3. Protected Areas in the selected landscape (FAO, 2020)