REQUEST FOR CEO ENDORSEMENT
PROJECT TYPE: Full-sized Project
TYPE OF TRUST FUND: GEF Trust Fund
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PART I: PROJECT INFORMATION

Project Title: Conservation of Key Threatened, Endemic and Economically Valuable Species in Madagascar			
Country(ies):	Madagascar	GEF Project ID:[1]	5352
GEF Agency(ies):	UNEP	GEF Agency Project ID:	01075
Other Executing Partner(s):	Ministry of Environment, Ecology, Sea and Forest	Resubmission Date:	September 9, 2016
GEF Focal Area (s):	Biodiversity	Project Duration(Months)	60
Name of Parent Program (if applicable): ➢ For SFM/REDD+ ☐ ➢ For SGP ☐ ➢ For PPP ☐	N/A	Project Agency Fee ($):	536,750

A. FOCAL AREA STRATEGY FRAMEWORK

Focal Area Objectives	Expected FA Outcomes	Expected FA Outputs	Trust Fund	Grant amount	Co-financing ($)
Biodiversity 1 – Improving the sustainability of protected areas systems	Outcome 1.1: Improved management effectiveness of existing and new protected areas	Output 2. New protected areas (number) and coverage (hectares) of unprotected threatened species (number).	GEF TF	2,650,000	7,541,873
Biodiversity 2 – Mainstreaming biodiversity conservation and sustainable use into production landscapes/seascapes and sectors	Outcome 2.2: Measures to conserve and sustainably use biodiversity incorporated in policy and regulatory frameworks.	Output 1. Policies and regulatory frameworks (number) for production sectors. Output 2. National and sub-national land-use plans (number) that incorporate biodiversity and	GEF TF	3,000,000	8,047,867

[1] Project ID number will be assigned by GEFSEC.

		ecosystem services valuation.			
Total project costs				5,650,000	15,589,740

B. OJECT FRAMEWORK

Project objective: To develop, implement, and disseminate local strategies for the conservation and sustainable use of 20 globally significant flora and one globally significant fauna species						
Components	**Grant type**	**Expected outcomes**	**Expected outputs**	**Trust fund**	**Grant amount ($)**	**Confirmed Co-financing ($)**
Component 1: Development and implementation of a participative species-based approach on the conservation and sustainable use of biodiversity	TA	1.1. Biodiversity conservation based on species approach is known by all stakeholders - Target: - 80% of habitants in 56 targeted villages aware of key species conservation 1.2. Social and economic values, technical and scientific knowledge on the 21 key species are available - Targets: - All national stakeholders representatives partners receiving the research results and exploiting them for conceptulization of key species local conservation strategies - Local knowledge is included and applied in the conservation strategies for key species in the 16 project site - 1.3. A local collective agreement is implemented with support from local	1.1.1. Awareness-raising programme for different actors (local communities, technical agents, local authorities) in support of the conservation of important species 1.2.1. A Research plan on biological, physical, and ecological aspects of the 21 target species to support their conservation actions 1.2.2. A completed sector-based economic analysis of the services and derived products of the 21 global and national significant species 1.3.1. Conservation strategies of the species to complement ecosystem management (prepared in a participatory manner with the	GEFTF	600,000	4,438,255

		stakeholders for conservation of the 21 targeted species in the project intervention sites - Target: - 75% of stakeholders in the target communities formally express support to the local collective conventions[2] for the conservation of the 21 targeted species in the project intervention sites.	involvement of the local community representatives) 1.3.2. Technical and administrative tools for the implementation of the collective agreements 1.3.3. Model of collective agreement for species conservation strategies			
Component 2: Local strategy implementation using concrete actions to conserve target species	INV	2.1. Enabling conditions created for the participation of local people in the conservation of the key species - Targets: - Local strategies consolidated to elaborate the national strategy on the 21 key species conservation - National strategies validated at central level - 80% of populations in the project intervention site (of which 50% of them are women) involved in key species conservation actions - 2.2. Improved livelihoods of local communities resulting from their support to conservation actions - Target: - 75% of habitants in	2.1.1 Management contracts transferred to local communities for better implementation 2.1.2 Effective involvement of all stakeholders in the project sites for target species conservation 2.2.1. Economic incentives/conservation-friendly alternative livelihood models	GEF TF	4,000,000	8,005,125

[2] Local Collective Conventions" are well founded in national legislation and have been widely applied throughout the country as the framework for community based-natural resource management (CBNRM, also termed 'management transfer to local community' or TGRN in the proposal document).

		the project targeted villages would get benefits from economic incentives from conservation actions (50% are women)				
Component 3: Capitalization, dissemination and sustainability of the project achievements at national, regional and international scales	TA	3.1. New information related to species-approach in Biodiversity conservation is shared and disseminated to conservation decision-makers - Target: - 6 target groups (local communities, decision makers, researchers, protected areas managers, funding partners, environmental NGOs) involved in Biodiversity conservation in 10 regions through the country, informed on species based approach for Biodiversity conservation 3.2. The importance of species conservation is recognized by the Biodiversity sustainable management at different levels - Targets: - Conservation and sustainable use of species governed by regulatory texts (long-term) - Inclusion of species conservation and sustainable use in different policy documents	3.1.1. Project Database set up and managed by the MEEMF Information System Department as part of knowledge management and recorded in other databases 3.1.2. Regional (Africa) networks established allowing to capitalize and exchange information on *Ardeola idae* 3.1.3. Different tools and methods developed to disseminate the application of the collective agreements on key species conservation approach 3.2.1. Species conservation approach included in reference documents and funding programs related to Biodiversity	GEF TF	780,000	2,370,938

Sub-Total	GEFTF	5,380,000	14,814,318
Project Management Cost	GEFTF	270,000	775,422
Total Project Costs		**5,650,000**	**15,589,740**

C. SOURCES OF CONFIRMED CO-FINANCING FOR THE PROJECT BY SOURCE AND BY NAME ($)

Please include letters confirming co-financing for the project with this form

Sources of Co-financing	**Name of Co-financier (source)**	**Type of Co-financing**	**Co-financing Amount** ($)
Government	Ministry of Environment, Ecology, Sea and Forest	In kind	1,700,000
Government	Parc Botanique et Zoologique de Tananarive	In kind	4,714,203
Government	Madagascar National Parks	Cash	2,250,000
Government	Water and Forest Department in Graduate School of Agronomy, University of Antananarivo	In kind	75,600
Non-Governmental Organism	Liz Clairbone and Art Ortenberg Foundation	In kind	200,000
Non-Governmental Organism	Tany Meva Foundation	Cash	82,500
Non-Governmental Organism	Royal Botanical Gardens , Kew	In kind	2,250,000
Non-Governmental Organism	The Peregrine Fund, Inc.	Cash In kind	1,374,400 216,652
Non-Governmental Organism	Asity Madagascar	In kind	150,000
Non-Governmental Organism	Durell Wildlife Conservation Trust	In kind	302,000
Non-Governmental Organism	Madagascar Fauna and Flora Group	Cash	87,500
Non-Governmental Organism	AVERTEM	In kind	73,160
Non-Governmental Organism	Welthungerhilfe (WHH)	In kind	1,563,725
Private Sector	QIT Madagascar Minerals SA	Cash	500,000
Multilateral agency	UNESCO	In kind	50,000
Total Co-financing			**15,589,740**

D. TRUST FUND RESOURCES REQUESTED BY AGENCY, FOCAL AREA AND COUNTRY[1]

GEF Agency	**Type of Trust Fund**	**Focal area**	**Country Name/Global**	**(in $)**		
				Grant amount ($)	**Agency Fee ($) (b)**	**Total ($) (a + b)**

				(a)		
UNEP	GTF	Biodiversity	Madagascar	5,650,000	536,750	6,186,750
Total Grant Resources				**5,650,000**	**536,750**	**6,186,750**

[1] In case of a single focal area, single country, single GEF Agency project, and single trust fund project, no need to provide information for this table. PMC amount from Table B should be included proportionately to the focal area amount in this table.

E. CONSULTANTS WORKING FOR TECHNICAL ASSISTANCE COMPONENTS:

Component	Grant Amount ($)	Co-financing ($)	Project Total ($)
International Consultants	-		-
National/Local Consultants	58,900	152,300	211,200

F. DOES THE PROJECT INCLUDE A "NON-GRANT" INSTRUMENT?

N/A

(If non-grant instruments are used, provide in Annex D an indicative calendar of expected reflows to your Agency and to the GEF/LDCF/SCCF/NPIF Trust Fund).

PART II: PROJECT JUSTIFICATION

A. DESCRIBE ANY CHANGES IN ALIGNMENT WITH THE PROJECT DESIGN OF THE ORIGINAL PIF[3]

A.1 National strategies and plans or reports and assessments under relevant conventions, if applicable, i.e. NAPAS, NAPs, NBSAPs, national communications, TNAs, NCSA, NIPs, PRSPs, NPFE, Biennial Update Reports, etc.

In November 2014, a presidential promise was made by Madagascar during the Park World Congress in Sydney to finalise the expansion of the tripling of the protected area system. Currently, 94 new protected areas have been created with a total surface area of 7,200,200 hectares. Among these protected areas, eight (8) are included in the GEF/UNEP Project for key species conservation.

Further, a new law on Protected areas management code was published in February 2015 in Madagascar. The law is based on IUCN principles mainly focusing on modern management, broadening of types of stakeholders, enhancement of natural capital and sustainable use of natural resources for poverty alleviation. The status of protected areas may be private, community, government etc. expanding the PA governance types. New nomenclatures were adopted, such as Natural Monument, Protected harmonized landscape and Reserve of Natural Resources. This GEF/UNEP Project will consider the code to support its implementation.

The fifth National Biodiversity report of Madagascar was recently published by the CBD. The report underlines the importance of ecosystems, species and genetic resources. Some strategies and action plans focused on species are presented and lessons learned are shared towards conservation and sustainable use. This aspect should be enhanced by the GEF/UNEP project which aims for conservation based on species approach. The importance of a participative approach on Biodiversity conservation inclusive of different sectors and actors was presented in the report. Roles and responsibilities of local communities are particularly mentioned. Global and national contexts are reviewed for governance analysis (policy, strategy, institutional and legal framework) and an overview of Biodiversity importance in the country is highlighted

[3] For questions A.1 –A.7 in Part II, if there are no changes since PIF and if not specifically requested in the review sheet at PIF stage, then no need to respond, please enter "NA" after the respective question.

if efforts are mainly focused on ecosystems conservation in protected areas. All these aspects on Biodiversity governance offered lessons; which were used in this project design.

Alignment of National strategy and action plan for Biodiversity (Aichi targets) is at its final phase for implementation. Species and genetic resources conservation is included in the strategy. The GEF/UNEP project will contribute to Aichi targets 1, 2, 5, 7, 11, 12, 13 and 20 will be coherent with this future new national strategy and action plan.

A new environmental charter was published at the end of 2014 based on several principles, among them, Biodiversity and natural resources of Madagascar mentioned as important global and national heritage. They are protected for current and future generations. The charter recommends specific management such as: restoration of degraded habitats, enhancement of community management, in situ and ex-situ conservation of genetic resources. The GEF/UNEP project will contribute to this genetic resources conservation for 21 endemic species.

The General State Policy (GSP) established in May 2014 has defined the following goal: *"An inclusive growth guaranteeing sustainable development"*. The GSP has several challenges with strategic orientations, among them the environment preservation, in which sustainable management of natural resources and particularly the forests are emphasized. The GEF Project whose target is the conservation of 20 species of forest plants and a bird, whose secondary habitat is the dry forest, will contribute to the implementation of the GSP.

The Malagasy government recently decided to draw up a common framework of reference for all the stakeholders and the mid-term (2015 – 2019) development actions in January 2015. The *Plan National de Dévelopment (PND)* - National Development Plan - is a variation, in more detailed terms, of the General State Policy (GSP) with global guidance.

Natural capital preservation and valorization are included in the priority areas. Biodiversity, through the multitude of species, is a major element of this natural capital. Thus, their conservation and sustainable use comply with the new country's national development policy. The GEF/UNEP focus on key endemic species conservation would contribute to this policy implementation.

The environment, ecology and forests sector is formulating an Environmental Plan for a Sustainable Development (EPSD) whose vision is: *"environment and natural capital, sustainable benefits for the population"*. The EPSD will be implemented over a five year period (2015-2019) with the following three key priority areas:

- natural resources (forest, marine, coastal) sustainable management and valorization;
- environment protection and sustainable management; and
- environmental, ecological and forest good governance.

The "key species conservation" project will contribute to the implementation of the first two priority areas related to the management, the valorization and the protection of the environment natural resources, in which Biodiversity plays an important role. The project will also contribute to the third strategic priority area where capacity-building is considered a key factor of good forest governance. Actually, through its relatively new innovative concept of species-approach based conservation, the project foresees working on capacity-building at different levels.

In line with the project contribution to the United Nations mandate in the country, it will make contribution to the newly adopted UNDAF 2015 – 2019 as it will contribute to its outcomes 1: The vulnerable population in intervention zones have access to revenues opportunities and employment and ameliorate their resilience and contribute to inclusive and equitable growth for a sustainable development. The project contribution to this outcome will be generated through the support of socioeconomic activities, organizational strengthening and capacity building activities

National Environmental Policy for sustainable development (2015): The Objectives of the policy are:
- To maintain Madagascar in the category of the Hotspot countries in biodiversity

- To ensure the sustainable management of the natural resources, terrestrial and aquatic, marine and coastal, as well as the associated habitats and ecosystems,
- To promote an healthy living environment for the population,
- To increase the contribution of the goods and environmental services to the national economy
- To have a framework supporting the implication of all the sectors in the same vision of sustainable management of the Environment.

The project will contribute of this policy implementation by promoting key endemic species conservation and sustainable use and habitats and ecosystems restoration.

Sustainable Development Goals (SDGs): The international community has adopted in September 2015, through resolution of the General Assembly, the SDGs. The project through the planned activities such as forest enrichment and restoration, *Ardeola idae* habitat restoration, conservation of key biodiversity endemic species, will contribute to SDG Goal 15: "Sustainably manage forests, combat desertification, halt and reverse land degradation, halt biodiversity loss". In order to domesticate the SDGs, the Malagasy government has updated the National Development Plan. The orientation 5 of this plan is related to the « Valorization of the natural resources and enhancement of the resilience to the catastrophe/disaster risks ». It is derived from the fact that the economic growth of the nation is strongly related to the environment and the natural resource status including endemic species and ecosystems restoring which are prior areas of the project.

A.2. GEF focal area and/or fund(s) strategies, eligibility criteria and priorities:

N/A.

A.3 The GEF Agency's comparative advantage:

In addition to what is indicated in the PIF, UNEP comparative advantage to support this project is now more clearly define as the UNEP/GEF biodiversity portfolio has focused on five main areas of intervention:

•Strengthening the enabling environment so that countries can more effectively implement their commitments to the CBD

•Undertaking analysis and research relating to environmental information management, environmental assessments, environmental sustainability, environmental conservation and environmental pollution

• Identifying and developing tools and methodologies for the conservation and sustainable use of biodiversity

• Supporting transboundary conservation and the sustainable use of biodiversity

• Enabling access and benefit sharing arising from the use of genetic resources.

UNEP, in its work on biodiversity, has in-depth experience in developing innovative projects experimenting with new initiatives. A number of projects across a variety of themes have produced groundbreaking results, enabling these approaches to be scaled up. Examples include the insitu conservation of crop wild relatives, flyway conservation – conserving the important sites migratory bird species require along their entire migratory range – biosecurity/biosafety, and providing tools and methodologies to mainstream biodiversity into production sectors, such as agriculture and fisheries. The UNEP also has significant expertise in applying a more integrated approach to reducing threats to biodiversity loss and mitigating the causes of land degradation by linking piloted on the ground work with policy and assessment. These projects included a focus on i) integrated approaches that blend focal area funding and have a landscape impact, rather than isolated, "island[like" approaches, ii) the effectiveness and financial sustainability of protected area management, iii) mainstreaming biodiversity into development policy and planning, and (iv) increasing land productivity.

UNEP has significant experience in assisting countries with their enabling activities: more than 83 countries are currently being supported in the development and revision of their National Biodiversity Strategy and Action Plans in line with the CBD 2020 Strategic Plan. An impressive portfolio dealing with biosafety has also been developed and is under implementation. It reflects UNEP's comparative advantage in GEF as the lead implementing agency in biosafety. The biosafety unit has assisted 123 countries in developing their National Biosafety Frameworks and 130 countries in training and accessing the Biosafety Clearing House.

The project is in line with UNEP ecosystem management sub-programme which objective is to promote a transition to integrating the management of land, water and living resources, with a view to maintaining biodiversity and providing ecosystem services sustainably and equitably among countries. The project is particularly in line with the Expected Accomplishments (EA) related to (i) **Production:** Increased use is made of the ecosystem approach in countries, with a view to maintaining ecosystem services and the sustainable productivity of terrestrial and aquatic systems; (ii) **Marine issues:** Increased use is made of the ecosystem approach to sustain ecosystem services from coastal and marine systems; and (iii) **Enabling environment:** Services and benefits derived from ecosystems are integrated with development planning and accounting, particularly in relation to wider landscapes and seascapes and the implementation of biodiversity-related multilateral environmental agreements.

UNEP will work with the secretariats of biodiversity-related multilateral environmental agreements, and lead United Nations partners and others in catalyzing the uptake of the ecosystem approach, including use of traditional ecological knowledge. The aim is to help ensure the conservation and sustainable use of biodiversity and strengthen the resilience and productivity of ecosystems, in particular for food security and water. UNEP will strengthen the enabling environment for ecosystem management, including transboundary ecosystems, at the request of concerned countries. The aim is to help ensure the conservation and sustainable use of biodiversity, based on the Strategic Plan for Biodiversity 2011 2020 and its Aichi Biodiversity Targets, adopted by the Convention on Biological Diversity as an overarching framework on biodiversity for all stakeholders, and other biodiversity targets linked to multilateral environmental agreements. UNEP will support development planning to create the enabling environment for the implementation of biodiversity-related multilateral environmental agreements and collaborate with the Intergovernmental Science- Policy Platform on Biodiversity and Ecosystem Services (IPBES) and multilateral environmental agreement secretariats to improve links between science and policy. UNEP will support countries in their endeavor to use data on ecosystem services in mainstreaming ecosystem services in development planning, which promote a green economy in the context of sustainable development and poverty eradication.

The global environment problems and root causes

Geographical characteristics:

Madagascar is an island of 590,000 km^2, which broke away from the continent of Africa 100 million years ago. Located in the Indian Ocean and separated from the south-east coast of Africa by the Mozambique Channel, the country presents a relief dominated by a mountainous central plateau from 800 to 1,200 m altitude. The highest peaks rise to 3,000m. On the East, the land drops steeply to a narrow coastal plain lying in the Indian Ocean. At the West, the slope is less abrupt and descends to a larger coastal plain along the Mozambique Channel.

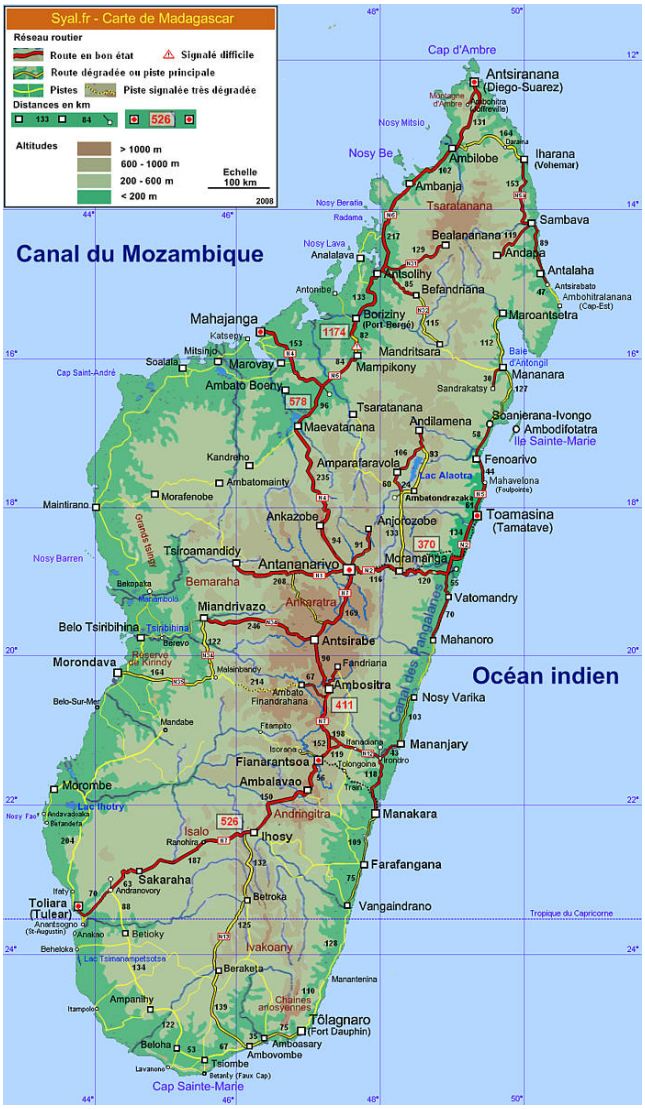

Figure 1: Madagascar map

Climate of Madagascar:

Madagascar's climate is mostly tropical humid with mild temperatures in the central plateau, high precipitation and distributed throughout the year in the eastern part (trade wind effect) and an almost permanent heat with seasonal rains in the West, where the effect of the monsoon wind decreases from north to south. The southern region is composed of arid and semi-arid areas with less than 400 mm of rain per year. Because of its geographical position, the country is subjected to frequent violent cyclones, which is, in addition, exacerbated by climate change phenomena.

Population of Madagascar:

The Malagasy population is currently estimated at 20,000,000 with a relatively high population growth rate of 2.9%. The population is relatively young with a high concentration on the central highlands. About 70% of the population lives in rural areas.

71% of the population is affected by poverty, with an average annual income of 167 Euros per inhabitant (*Institut National de la Statistique* / National Institute of Statistics, 2014). The populations living in rural areas are the most affected by poverty, they essentially work in agricultural field where arable lands cannot follow the population growth and the cultivation techniques remain traditional and do not allow to improve

the yield, the access to inputs of quality is very limited if not impossible. These lead to a food deficiency, malnutrition, poor health as well as low incomes for the farmers. They consequently turn to natural resources that are available for their livelihoods (fruits, wild tubers, firewood and timber, medicinal plants, etc.). In this context, poverty constitutes a threat to the conservation of Biodiversity in Madagascar.

The migration phenomenon exacerbates the population growth in rural area. It is motivated by the need for more secure living conditions (shifting to more populated areas) and land conquest. It increasingly contributes to poverty in rural areas because it increases the primary needs of the populations while the available resources (especially arable lands) cannot satisfy their needs. Protected areas are a favorite destination for migration as they are secured and the soil is still fertile. The migrants attack the forests (both outside and inside the protected areas) to clear and transform them into crop fields. Otherwise, they practice other activities to have new sources of incomes such as mining, wood cutting and small businesses. The migrants are from different backgrounds and they bring with them their customary habits that are sometimes more devastating than the indigenous traditions. During their journey, it may occur that the migrants cross lakes and destroy the habitats and disturb the aquatic animals.

In urban areas, high unemployment drives a great part of the population to enter the informal sector, most of the time illegal, to provide for their daily needs with low and variable daily incomes. The rural exodus accentuates these aspects as the available jobs are not enough for the whole population.

Main Economic Sectors in Madagascar

Agriculture occupies an important place in Madagascar's economy (about 35% of GDP). A wide range of food crops, livestock and fishery is developed by the primary sector to ensure the population's food supply and the national, regional and international trade (50% of exportation values are constituted by agricultural and fishery products). Agricultural practices, associated with population growth, the loss of arable lands and traditions, have led to forest devastation through clearance for slash-and-burn agriculture. The local population are also victims of the deforestation phenomenon, due to soil erosion and the silting of cultivated lowlands. About 8 million hectares are available for Agriculture in the country. There are generally small farmers because less than 1 ha is cultivated by each household. In addition, due to inheritance process, area is trending to continue reduction. Agriculture is mainly practiced with traditional techniques, low use of fertilizers and rudimentary tools. Food crop production (rice and other cereals, tubers, leguminous, etc.) by farmers is generally for self- consumption. However, some products surplus are sold in the local markets to get money for basic needs purchase. Vegetable and fruit farming is practiced for secondary income. Large scale farming for export purposes (coffee trees, clove trees, pepper, vanilla plant etc.) is supported by economic operators who are working with farmers.

Cattle raising: Madagascar is also a large cattle raising area. In general, wild straying of livestock is known throughout the country. Zebu is the main component of livestock. It is linked to social and cultural life of malagasy people (land ploughing, symbol of richness in some zones, use at different social events such wedding or mourning). Then, there are pigs, goats and sheep. Poultry breeding is practiced by farmers as a secondary activity. Its production is for self-consumption and local market.

Forestry: The value of legally exported forest products have varied from more than 10 million in 2009 to more than 5 Million dollars in 2012 [5](DVRN/MEF,2012). These products are woods and raw materials used in handicrafts and industries (fibers for basket making, medicinal plant leaves etc.). Official statistics on raw wood exportation are of 5,520 tons in 2010, 622 tons in 2011 and 5 tons in 2012 (Madagascar exportation , 2005-2012, INSTAT) . In 2012, estimation on potential exportable rose wood is of 1,000 containers costing 900 million US dollars. In August 2014, a cargo of 34 containers containing rosewoods costing 12,3 million US dollars was intercepted in Mombasa, Kenya and finally the value of globally sold rosewood is currently estimated at some ten billion US dollars (27) (Source : *press*).

Tourism: The arrival of foreign tourists from all over the world targets mainly the particular sites of biological diversity, as well as ecosystems, fauna and flora. Actually, Madagascar offers many attraction

points for visitors coming from different countries in the world .Almost 2/3 of the tourists coming to Madagascar visit the National Parks, hike or benefit from sea side funs. The destination "Nature and discovery" and the varied accommodations offered are true assets. The high rate level of satisfaction represents a true opportunity for the sector development *Office National du Tourisme* - National Tourism Office, 2013).In 2012, the number of tourists was estimated at 180 000 (*Office National du Tourism*, National Tourism Office, 2013). According to the World Bank, the touristic industry turnover was about 0,5 billion US dollars in 2013. An increase of more than 7% was observed by the "*Office national du Tourism*", National Tourism Office, (ONTM) on the number of tourists in Madagascar between January and April of this year 2014.

Mining: Madagascar has also significant mining resources among which some deposits are under natural forests. Resources are exploited at different scales: industrial scale for two main companies in Madagascar (in Ambatovy at the eastern part of the island with Sheritt Company and in Tolagnaro in the littoral south-eastern region with QMM); for medium scale, some Chinese companies are involved in the extraction. Finally, for small scale, mining is operated by local communities.

Land tenure is very problematic in Madagascar. Rural populations who exploit the land within a legitimate framework are very vulnerable to the illegal appropriation of their lands by political actors or economic operators. This situation is leading to a lack of motivation for the conservation of natural resources by the local population.

Madagascar and its valuable biodiversity

Madagascar is a mega-biodiversity country with a high concentration of endemic species. Based on current knowledge, the Malagasy ecosystems are home to approximately 12,000 species of plants, 370 species of reptiles, 244 species of amphibians, 154 species of fish and 99 species/sub-species of lemurs[4]. It is estimated that 83% of flora species are endemic[5]. This wealth in biodiversity provides valuable ecological services for the country and it benefits the livelihoods of more than eighteen million people (an estimated 80% of the population depend mainly on natural resources).

The Malagasy biodiversity presents important economic, sociocultural, ecological and scientific values. In the field of economy, in addition to their local, regional and national uses, some animal species (amphibians and reptiles) and plant species (ornamental and precious woods) and derived products are internationally exported.

By contrast, at national level commerce is destined for direct use and consumption. Socially, biodiversity plays an important role in food production, domestic energy, construction and traditional medicines. Some biodiversity products are associated with culture and tradition, such as some species of trees (baobabs, tamarinds) or some animals (lemurs) which are considered to be sacred.

As far as the environment is concerned, the biodiversity provides important ecological services, such as soil protection, restoration, preservation of water sources and atmospheric carbon sequestration by vegetation. Animals are playing important roles in ecological habitat functions like insects performing pollination, and lemurs and birds assuring forest seed dispersal and germination.

Current national strategies for biodiversity management in Madagascar

Aware of the situation about the loss and degradation of Biodiversity, the Malagasy government and the people have taken the measures to conserve the environment, by mobilizing international partners. Thus, great efforts were made to conserve biodiversity using the ecosystem based approach and establishing a growing number of protected areas (currently covering more than 10% of the country's surface areas). A lot of initiatives were taken at taxa levels, such as for the groups of animals (lemurs, amphibians), but only to a limited degree at species level (e.g. *Adansonia grandidieri*). Also, the species level approach has relatively neglected to date, which is why this project is needed.

[4] 4th National Report to UNCBD, Government of Madagascar, 2011. Other documents report 103 species of lemur.
[5] The endemic and non-endemic vascular flora of Madagascar updated, Callmander et al. 2011

The right-of-use gives to the local population the authorization to collect wood for construction, fuel, service woods (tool handles) and medicinal plants. In all natural resources management process in Madagascar, the practice of the right-of-use are provided and regulated by different management dispositions.

Another major move has been the transfer of the management of natural resources from the public administration to the local communities. This was initiated during the 1990s, through Law n°96-025 of 1996 on the promulgation of secured local management (*GELOSE*) and the Decree n°2001-122 of 2001 on the Contractual Forest Management.

According to these texts, the transfer of natural resource management responds to requests from local communities, through the Mayor of the municipality in question. Then, the forest administration carries out an assessment on the community itself and also on the state of the resources for which the management was requested. The transfer is formalized by a management transfer contract, including the rules for conservation, exploitation and natural resources valorization following a zoning and a management plan.

The relations between the members of the local community are settled by a *Dina* which is a local social convention. It is kind of internal rules governing the local communities and management of the renewable natural resources. The relationships between the local community are rules within the "Dina". The Dina is approved by the members of the base community according to the customary rules governing the community. They cannot include measures that may affect general interest and public order. They will only become enforceable after the municipality of attachment mayor's visa, who must issue it within a maximum period of 20 days. It will be presented by the mayor of the said municipality and will be subject of approval from the tribunal.

The Secure Local Management (GELOSE) act is based on the ecosystem scale of different types: forests, lakes, mangroves, grasslands etc. Its specificity resides in the fact that the notion of land security is indicated, that is to say that communities could become owners of the resources. The Contractual Forest Management (GCF) is based specifically on forests.

Details on the structures and the rules of operation of the local communities to which the management of natural renewable resources might be entrusted were given in the Decree n°2000-027, on local communities having responsibility for the management of renewable natural local resources.

The local community (COBA) is defined as a group of voluntary individuals united by the common interests and obeying rules of commune life, resident of a hamlet or a village or a group of villages within legal entity.

People who can become members of base communities include residents within the lands concerned, by committing to the functioning rules and executing the defined objectives and activities. Decisions are made at a general assembly, thus defined activities are organized and coordinated by an executive committee (composed by a president and 3 members) and the realization by all members of the COBA. The COBA operation is governed by a statute, an internal rules and a *Dina* (Local social convention). The COBAs' financial resources are pre-defined and their management is governed by holding a book of receipt and expenditures.

In 2001, the Forestry Administration issued the decree no 2001-122 on contractualized forest management. It is a management transfer mode to base communities for a sustainable local management of forest resources by offering the possibility of exploitation for commercial purposes in addition to customary rights of uses. The exploitation rules are indicated in a simplified management plan and a social convention or *Dina* for which the main objectives are:

- protect and maintain in the long term the natural resources in the protection and restoration areas;
- ensure the rational use of the resources to benefit the population in the right of use and valorization zones.

The management plan specifies the annual volume of collection depending on the surface areas and the maximum exploitable volumes (based on the productive and reproductive capacity of the forest and the biodiversity) and the zoning of management units.

Commissions or committees working on particular ecosystems or some particular taxonomic groups have developed and implemented strategies and action plans. The general remark is that most of efforts are focused on fauna taxa and work on flora is rare. Lessons should be in the future learnt for the different following examples:

Lessons learn from national biodiversity conservation strategies

In line with the thematic studies conducted during the PPG, information on national biodiversity conservation strategies and practices was gathered. These include: (i) ecological, social and economic information for each project site; (ii) presence, abundance and threats for each key species; (iii) awareness level of stakeholders for conservation species-based approach .

The analysis of these information reveals that current conservation strategies of biodiversity in Madagascar are mainly focused on ecosystems. It does not consider the geographic range of the species, except some localized census & survey. This is the case for the global census of the Madagascar fish eagle in 1995 and another one in 2005-2006 ; for the Madagascar pochard which is limited to only very localized site and a captive breeding.

Even though the Special Reserves exist in Madagascar, they are designed to preserve the habitats or the species in a particular area (New code of protected areas, COAP 2015).

There was no specific studies on targeted species in the identified project sites and those target species which were subjected to studies concerned localized sites. Nevertheless, some groups of species or endemic species are subject to conservation plan whose implementation showed constraints. These few example allowed some lessons learning on species conservation strategies.

Example of a plant species and fauna species on which lessons are learnt include:

- *Adansonia grandidieri* (endemic species of Baobab), the goals of the conservation plan are:

  - to ensure the protection of the species in protected areas through understanding of habitat degradation factors and by enhancing knowledge of the species
  - to promote sustainable use of the species (tourism development and economic recovery).

- *Phelsuma antanosy* (endemic species of reptile), the goals of the conservation plan are:

  - to involve all stakeholders in the sustainable management of natural resources;
  - to increase the number and populations of the species;
  - to conserve and sustainably manage habitats and conserve biodiversity including species to contribute to regional development.

The current conservation project will consider the valorization of these different approaches and adapt it to the specific context of each sites and the target species.

Key issues for consideration for the GEF project will include:

- working at different geographical sites through natural range of each key species, in or ouside protected areas;
- consideration of species conservation to ecosystem management;
- developing and increasing knowledge to ensure species conservation and sustainable use;
- enhancing preservation of species through population increasing (propagation of plant species and reproduction management of *Ardeola idea*)
- involving different local stakeholders, starting from the local populations (households) to reduce pressure to the species and their habitats
- supporting local livelihoods

Action plan for the conservation of *Adansonia grandidieri*

Adansonia grandidieri is the biggest of the 6 endemic baobab species of Madagascar (Baum, 1995a). In 1998, it was classified by the IUCN as Endangered (EN). The species is threatened because of its low natural regeneration rate, overexploitation of its fruits and bark, habitat loss, and the disappearance of pollinators such as fruit eating bats (*Peropus rufus* and *Eidolon dupreanum).* The existence of *A. grandidieri* in 5 protected areas, however, ensures its conservation. Moreover, an action plan established in 2013 identified the conservation goals and objectives.

Action plan for the protection of endemic tortoises

Madagascar is home to 9 species of terrestrial and fresh water tortoises, five of which are endemic and categorized as in Critically Endangered (CR). Tortoise species are under different pressures, among others, illegal collect for illegal detention, unauthorized hunting of adults or their eggs for local consumption; excessive degradation and irreversible destruction of their natural habitats (dry forests, thorny thickets or bamboo, permanent lakes and rivers); the large-scale poaching for national trade and international traffic. Various objectives have been formulated to alleviate the pressures.

Conservation strategy of golden Mantelle *"Mantella aurantiaca"*

A strategy was established in 2010 (Randrianavelona et *al*, 2010) for a five year implementation to conserve golden Mantelle in order, mainly, to establish protected areas; apply laws improve scientific knowledge and management of this resource; making awareness of all stakeholders;

Conservation strategy of the Antanosy Gecko "*Phelsuma antanosy*"

This strategy was developed in 2012 and has three goals and 10 objectives. More than 90 actions were identified by all the stakeholders and their realization depend on the validation of the strategy by the competent authorities. The goals aim to participatory approach in the sustainable management of the resources and its habitat. Also, research and ecotourism development is included in the strategy.

Action plan for raptor conservation

The sedentary and migratory species of Madagascar were subjected to an action plan for conservation, particularly *Falco concolor* and *F. eleonorae*. The objectives are to maintain the diversity and the abundance of these raptors and to reduce the pressures on their populations. This plan was designed for a three year period between 2011 and 2014.

Conservation strategy of lemurs 2013-2016

The lemurs of Madagascar are classified among the critically endangered species in IUCN classification. However, in July 2012, national and international experts reviewed the status of all lemurs to provide a strategic plan for their conservation and to improve the livelihoods of the population living around the parks and forests where these animals live. Thus, in July 2013, a three year conservation strategy, from 2013-2016 was developed and published.

Targeted species and envisaged sites of the project

According to the project title, species were selected with 3 major criteria: endemism, threat and economic value. On this basis, 20 plant species were identified during the PIF establishment process and the list was slightly improved to reflect criteria recommended by the partners participating in the PPG inception workshop (May, 8th 2014). An endemic migratory bird species (*Ardeola idae*) is also included to implement integrated conservation and sustainable use approach. *Ardeola idae* is an endemic species to Madagascar which migrate only within African countries particular Kenya, Mozambique, Tanzania and Central Africa Republic. The species has already been object of a national action plan established in 2010. The principal objective of this plan is to improve the conservation status and the basic knowledge on the species within the 10 coming years. Contrary to other migration countries cited above, where dynamic national and local networks exist for the conservation of the species, in Madagascar no specific action for *Ardeola idae* conservation was implemented, and the species was always treated under the generalized strategies for water birds. This is an argument to include it in the GEF/UNEP project. See table 1 for a list of selected species and respective sites of intervention.

Table 1: List of selected key species and respective sites of intervention

Families	Species	IUCN Status [GSPM,2010] + CITES	Uses	Sites
ANACARDIACEAE	*Calophyllum chapelieri*	VU	Timber, and tool handles	Tampolo- Betampona – Ranomafana - Manombo– Mahabo Mananivo – Ambongamarina – Tsiazompaniry - Bekorakaka
ASTERACEAE	*Asteropeia amblyocarpa*	CR	Timber [SCHATZ, 1999]	Tampolo
BURSERACEAE	*Canarium lamianum*	DD	Timber, tool handles and sticks, gum production	Pointe à Larrée- Tampolo- Betampona – Mahabo Mananivo
BURSERACEAE	*Canarium obovatum*	DD	Timber, tool handles, stick; gum production	Tampolo -Betampona– Mahabo Mananivo - Bekorakaka
CLUSIACEAE	*Symphoni afasciculata*	VU	Timber, fuel, essential oil production, medicinal plant	Tampolo- Ranomafana - Manombo– Mahabo Mananivo - Bekorakaka
CUNONIACEAE	*Weinmannia commersonii*	EN	Timber, fuel, edible fruits	Ranomafana – Manombo – Ambongamarina – Sandrandahy – Tsiazompaniry - Bekorakaka
FABACEAE	*Cordyla haraka*	VU	Wood for tool handles, sticks, coffins	Pointe à Larrée - Tampolo
FABACEAE	*Dalbergia baronii*	VU CITES II	Lumber wood and timber	Pointe à Larrée - Tampolo- Betampona – Ranomafana - Manombo– Mahabo Mananivo - Bekorakaka

Families	Species	IUCN Status [GSPM,2010] + CITES	Uses	Sites
FABACEAE	*Dalbergia chapelieri*	VU CITES II	Lumber wood and timber	Manombo– Mahabo Mananivo - Bekorakaka
FABACEAE	*Dalbergia louvelii*	EN CITES II	Lumber wood and timber	Pointe à Larrée
FABACEAE	*Dalbergia madagascariensis*	VUCITES II	Lumber wood and timber	Pointe à Larrée - Tampolo - Betampona – Ranomafana - Manombo
FABACEAE	*Dalbergia maritima*	EN CITES II	Lumber wood and timber	Betampona
FABACEAE	*Dalbergia monticola*	VU CITES II	Lumber wood and timber	Betampona – Ranomafana – Ambongamarina – Tsiazompaniry - Bekorakaka
FABACEAE	*Dalbergia normandii*	EN CITES II	Lumber wood and timber	Pointe à Larrée
LAURACEAE	*Ocotea alveolata*	DD	Lumber wood and timber	Ranomafana – Ambongamarina – Sandrandahy – Tsiazompaniry - Bekorakaka
LAURACEAE	*Ocotea racemosa*	DD	Lumber wood and timber, edible fruits	Tampolo – Ambongamarina – Bekorakaka
SAPINDACEAE	*Tina thouarsiana*	EN	Timber	Pointe à Larrée - Tampolo – Betampona - Bekorakaka
SAPOTACEAE	*Faucherea tampolensis*	DD	Timber	Pointe à Larrée - Tampolo- Betampona - Manombo– Mahabo Mananivo
SAPOTACEAE	*Labramia bojeri*	VU	Timber	Pointe à Larrée - Tampolo- Betampona
SARCOLAENACEAE	*Leptolaena multiflora*	EN	Timber	Pointe à Larrée- Tampolo – Ambongamarina - Bekorakaka
ARDEIDAE	*Ardeola idae (Bird)*	EN	Touristic attraction	Ankevo, Bemanevika, Tsimanambolomaty, Ankarafantsika, Mahavavy Kinkony, Mandrozo Tsimbazaza and Tsarasaotra (in Antananarivo city)

Sites presentation: Sites are spread along eastern littoral forest, low and medium altitude for targeted plants and humid zones around western dry forest for the bird species. Among 16 envisaged sites, 11 are in protected areas, 3 sites are local communities-managed areas, one is a public botanical and zoological park and the last one is a private area in Antananarivo. Two of the sites correspond to community forest and one is in Forest Administration Area. Please see table 2 for more details.

Table 2: Sites of the project

Sites	Ecosystem type	Status / Year of creation	Area(ha)	Number of represented targeted species
Pointe à Larrée	Eastern littoral forest	New protected area / 2010	4,417	9 plant species
Tampolo	Eastern littoral forest	New protected area / 2010	675	12 plant species
Manombo	Eastern littoral forest	Protected area	15,000	7 plant species
Mahabo Mananivo	Eastern littoral forest	New protected area Agnalazaha / 2010	2,418	7 plant species
Betampona	Eastern forest at low and medium elevation	Integral National Reserve / 1927	2,228	12 plant species
Bekorakaka	Eastern forest at medium elevation	Part of the New protected area corridor Ankeniheny – Zahamena	1,400	11 plant species
Ambongamarina	Eastern forest at low and medium elevation	Community forest / 2008	200	6 plant species
Tsiazompaniry	Eastern forest at low and medium elevation	Forest Administration Area	1,059 ha	4 plant species
Sandrandahy	Eastern forest at low and medium elevation	Community forest	40	2 plant species
Ranomafana	Eastern forest at low and medium elevation	National park	41,600	8 plant species
Bemanevika	Northern humid zone	New protected area / 2010	36,515	*Ardeola idae*
Mahavavy Kikony	Western humid zone	New protected area / 2010	301,701	*Ardeola idae*
Ankarafantsika	Western humid zone	National park / 2002	130,026	*Ardeola idae*
Manambolomaty Tsimembo	Western humid zone	New protected area / 2010	62,745	*Ardeola idae*
Mandrozo	Western humid zone	New protected area / 2010	15,145	*Ardeola idae*
Ankevo	Western humid zone	New protected area Ambondrobe / 2010	7,049	*Ardeola idae*

Additionally to the 6 sites for *Ardeola idae* conservation mentioned in table 2, 2 other sites located in Antananarivo are identified as temporary habitats (for breeding and nesting) of the species: the Botanical and Zoological park of Tsimbazaza (7 ha) and the private park of Tsarasaotra / Antananarivo, a Ramsar-designated lake of 27 ha. The project will also intervene in these areas to conduct awareness and sensitization but also to carry out monitoring of the species and conduct activities to conserve and enhance the habitat. Please see figure 2 for the location of the sites in Madagascar.

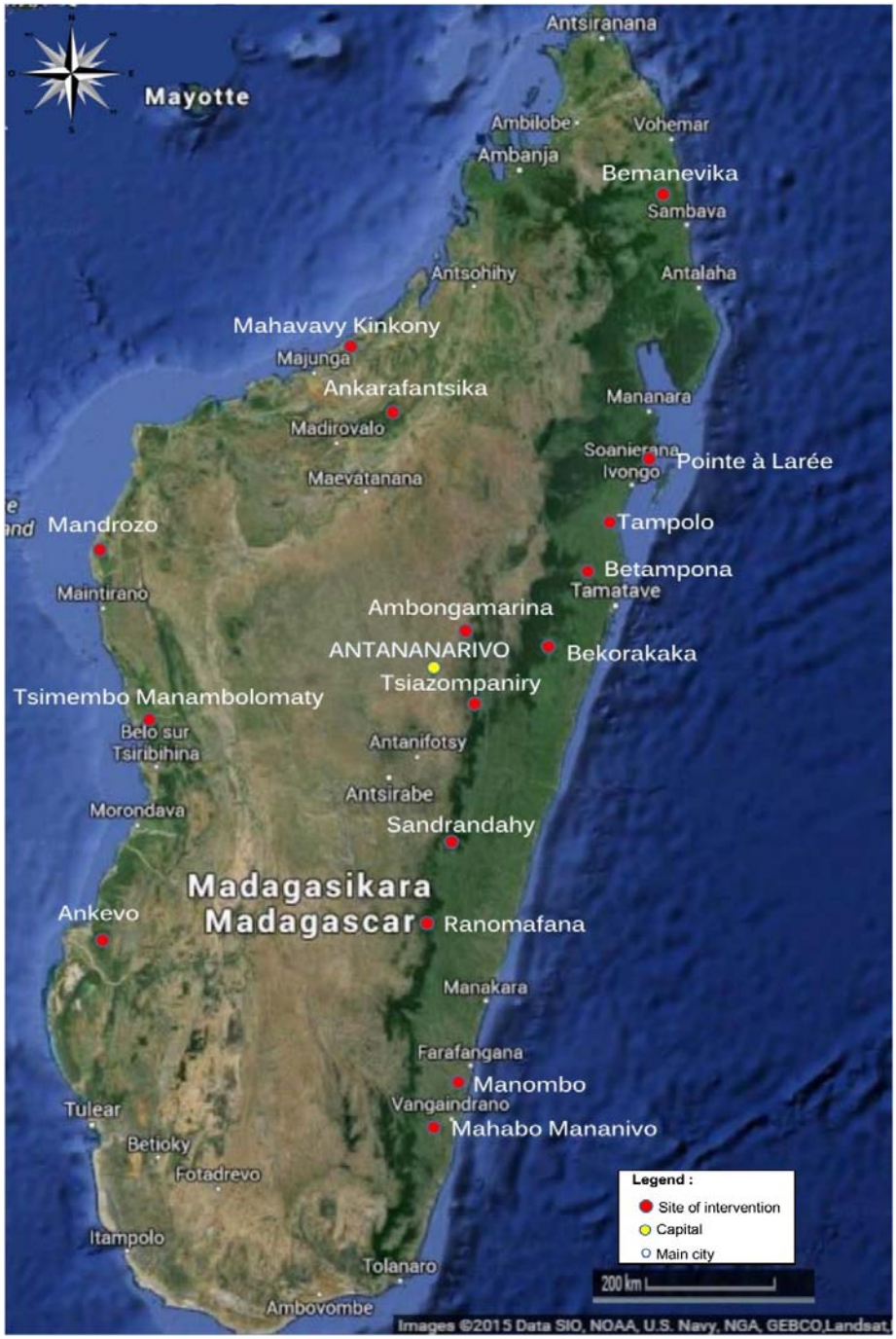

Figure 2: Location of sites

Threats to Biodiversity:

The rich and high valuable biodiversity of Madagascar is facing a general trend towards degradation. A recent study done on 2,300 plant species revealed that 78% are threatened with extinction. Natural habitat loss is estimated at 0.55% per year. Main threats are due to human destructive activities such as clearing of natural habitats, over-exploitation and mining. Adding to these complex and diverse causes, there are serious poverty problems, insecure land tenure, low awareness, inadequate legal and regulatory frameworks, demographic trends, lack of conservation incentive, etc.

Some investigations undertaken by some foreign researchers revealed, for example, that the natural habitat degradations in Madagascar have certainly impacted some species. During the last millennium, anthropogenic activities have caused the extinction of at least 14 primates, 8 "walking" birds and the pygmy hippopotamus (Robert *et al*, in Kull 1996) and continue to threaten many other species such as the tree ferns (*Cyatheaceae*) used as pots for plants, the Malagasy ebony woods (*Diospyros perrieri, D. microrhomus)* and the palisander (*Dalbergia* spp.) [DBEV, 2013].

The deforestation phenomenon (average annual rate of 0.6%) has led to the loss of a great part of the island's forests. The different forest ecosystems are affected by the phenomenon, including mangroves along the coasts, notably on the western side of the country. Subsequently wide savannas, with sparse or absent tree cover, took their place. These areas are annually burnt, thus developing a superficial hard crust at the surface of the soil, losing from year to year their fertility. The remaining forests are becoming more and more rare and sparsely distributed outside of protected areas and many endemic species (of flora and fauna) are threatened due to habitat destruction.

The Malagasy biodiversity provides products that are sold on international markets in order to respond to the demand from different countries. These products include precious woods such as *Dalbergia* species (targeted in this project) for which the international communities are highly concerned because of the massive illegal exploitation and exportation these last years. Moreover, these species are listed under the CITES appendix II [CITES Secretariat, 2013]. Please see table 3 for the specific threats to the 21 targeted species.

Table 3: Threats affecting the targeted species

	TARGETED SPECIES	**THREATS**								
No		**Egg and chick collection**	**Forest fires and clearing**	**Felling for timber**	**NTFP collection**	**Poaching**	**Mining**	**Wild straying of livestock**	**Invasive species**	**Natural disasters**
1.	*Ardeola idae (Bird)*	X	X			X		X		
2.	*Asteropeia amblyocarpa*			X						X
3.	*Calophyllum chapelieri*		X	X			X		X	X
4.	*Canarium lamianum*		X	X	X		X		X	X
5.	*Canarium obovatum*		X	X	X				X	X
6.	*Cordyla haraka*		X	X			X			X

7.	*Dalbergia baronii*		X	X			X		X	X
8.	*Dalbergia chapelieri*		X	X					X	X
9.	*Dalbergia louvelii*		X	X			X			X
10.	*Dalbergia madagascariensis*		X	X			X		X	X
11.	*Dalbergia maritima*		X	X					X	
12.	*Dalbergia monticola*		X	X			X		X	
13.	*Dalbergia normandii*		X	X			X			X
14.	*Faucherea tampolensis*		X	X			X		X	X
15.	*Labramia bojeri*			X			X		X	X
16.	*Leptolaena multiflora*		X	X			X		X	X
17.	*Ocotea alveolata*		X	X			X	X	X	
18	*Ocotea racemosa*		X	X	X				X	X
19.	*Symphonia fasciculata*		X	X	X		X		X	X
20	*Tina thouarsiana*		X	X			X		X	X
21.	*Weinmannia commersonii*		X	X	X		X	X	X	X

Analysis of key threats to biodiversity:

Forest fires and clearing: Generally, fire damage is characteristic of the natural habitat and cause significant damage to natural resources. Fires are practiced during dry season and they spread rapidly before they touch natural barriers such as rivers, or artificial ones such as roads. Bush fires (accidentally caused by the clearing and burning of crop fields or the renewal of pastures for the cattle, or deliberate fires set by the "dahalo" (rural brigands) etc.) are different from forest fires (caused by itinerant slash and burn agriculture). For example, fires observed in Manombo (coastal area in the south-east) are set every season especially between the months of June and December. A superficial analysis indicates that these fires are not particularly linked to the beginning of the rainy season (hence, are not required for the renewal of pastures). These seasonal fires could be due to the needs of acquiring new fields in the goal of installing agriculture or a fire for cleaning a new piece of land for crops. This issue is exacerbated by population growth and by the nearness of big urban centers and along national roads. The land clearing in Mahabo Mananivo (coastal area in the south-eastern) from 1989 to 2003 was characterized by a loss of 7.5 ha littoral forest per year. Fires and land clearings for crop fields are also very frequent around the Betampona (eastern area) Integral Natural Reserve (the same for the Bekoraraka site in the eastern zone). The habitats of humid dense forests, ponds and wetlands and other conservation target habitats are threatened in the new protected area of Bemanevika (northern zone including

habitat of *Ardeola idae*). The causes are forest fires, land clearing and conversion to rice fields. The impact levels of threats on the target habitat viability are very high. The Pointe à Larrée, and Manombo (eastern littoral area), Ambongamarina (medium altitude area), Tsimembo, Manambolomaty and Mandrozo (western area) sites are also threatened by fires and land clearing.

Soil erosion resulting from land clearing also leads to the silting of lakes downstream. This, in turn, will raise the river bed that will expose aquatic plants out of the water for a long period, especially during the dry season. *Ardeola idae* whose natural habitat is lakes is affected by these phenomena. It is to be noted that voluntary fires could also be an expression of discontent and social or political claims. Habitats and particularly for proposed sites of the project are affected by forest fires and clearing which are serious threats to be addressed for all targeted key species conservation.

Selective cuttings of wood: Natural resources, notably, from the forest are threatened by irrational exploitations connected to the regulation on right-of-use because their applications go beyond the authorized collection levels. Generally, these illegal products are locally used and/or transported to be sold in the neighboring towns, which are centers of high demands in forest products (Farafangana and Vangaindrano for Manombo and Mahabo Mananivo, Fénérive-Est for Tampolo, Toamasina for Betampona, Antananarivo and Moramanga for Bekorakaka).

Despite the restrictive statute of the Betampona Integral Natural Reserve (humid forest at medium elevation), the high level of demand for palisander (*Dalbergia* spp.) from the neighboring markets (particularly Toamasina), contribute to maintaining the level of observed pressures. Illegal selective cuttings found in Manombo are specifically destined to charcoal making (Analameloka), to construction woods, and lumber wood trades (collect and selling of palisander in Marovandrika) etc. The littoral forest of Mahabo-Mananivo is a forest reserve (Ludovic, 2005). This statute gives to the local population the right-of-use for their livelihoods. However this freedom has led to the overexploitation of the resources and has accelerated the forest degradation process. Illegal selective cuttings are particularly destined to house construction and canoe making as well as lumber wood commercialization and charcoal making.

For Pointe à Larrée site (littoral eastern forest), the irrational forest exploitation, which is the principal socio-economic activity of the population, constitutes the main pressure on the forests. The Itampolo forest is under different threats and pressures due to high demands in fuel woods and construction woods from the town of Fénérive-Est. In order to satisfy these needs, numerous illegal exploitations are done in this forest.

In Bekoraraka (medium altitude forest), charcoal making is characterized by a regular supply of charcoal to Antananarivo and Moramanga zones (between 5 to 8 trucks of 25 tons per week were observed). Wood exploitation for local markets (for example to make tool handles, or mortars) has also become uncontrollable since these uses do not require a collect permit, for they are considered to be part of the right-of-use. This aspect concerns particularly the forest species of Tsiazompaniry (medium altitude forest in the central highland area). For the Ranomafana site (forest at medium altitude), the provision of raw materials to be used in wood sculpture handicrafts in Ambositra represents a major threat.

Illegal collecting is affecting most of the targeted key plant species of the project: precious woods (all *Dalbergia* species and *Callophyllum chapelieri),* lumber woods (*Ocotea alveolata, Ocotea racemosa*), fuel woods (*Weinmannia commersonii*, construction woods (*Asteropeia amblyocarpa* [RANDRIATAFIKA, 2000], *Canrium lamianum, Canarium obovatum, Leptolaena multiflora and Tina thouarsiana)* are observed in all the sites. Operators pay the community who live near the forests to illegally collect the products that are illegally transported (with falsified papers) to the nearest towns. The presence of an intensive center for wood uses intensifies illegal collecting of precious woods.

Selective cuttings (exploitation by “creaming” of the best individuals) lead to forest degradation. The forest deprived of its economic value is easily cleared and used as crop fields. The risk of species extinction should

not be minimized as there are serious consequences of this kind of exploitation. The selective cutting of adult trees and individuals able to reproduce decreases the chance of species multiplication. Moreover, the already installed regeneration seedlings may be damaged and killed during the cutting down of the adult trees.

Irrational exploitations in lakes: The overexploitation of fish stock by misuse of inadequate equipment or through of certain persons' voluntary abuse constitutes threats which are habitats of *Ardeola idae.* Ancestral practices of fishing also destroy aquatic vegetation which is up rooted.

Collection of non-wood forest products: Handicraft production, including basket and mat making, is a traditional female activity in many communities. It is also one of the sources of incomes for the population during lean periods. Demographic trends have led this activity to become a source of pressures on natural resources, particularly on aquatic vegetation that are found in humid zones, the habitats of aquatic birds like *Ardeola idae.*

Mining: Madagascar is rich in mineral resources. The mine deposits are widely distributed particularly under dense forests. This is a real threat for natural forests and endemic species living there. Under eastern humid forest where targeted key species are native, ore beds are present. Their exploitation may destroy the ecosystems and lead to species loss.

In Pointe à Larrée, there is a mining site for rare quartz crystals. This exploitation, even very limited, accelerates the forest degradation and soil erosion. Currently, a mining concession belonging to Mainland Mining Society is in its exploration phase in a large littoral forest of Sahafadrano. For Ranomafana (humid forest at medium altitude), the main pressure is now illegal gold mining. A migrating group practices this exploitation. Gold exploitation is done by clearing forests, driving to a serious loss of biodiversity.

Wild straying of livestock: Uncontrolled straying of a certain number of livestock leads to negative impact on certain species of plants: this is the case in Mandrozo (western area of *Ardeola idae*) of Bemanevika (northern area of *Ardeola idae*) and in Sandrandahy forest (forest area at medium altitude in the central highland). Traditional extensive cattle raising where the cows are left unattended and free to roam reduce natural regeneration of forest species due to grazing and trampling of seedlings. This ancestral grazing practice also allows the cattle to stray near lake borders, in ponds and wetlands and destroys aquatic plants.

Poaching: Poaching is one of the threats to wild fauna of Madagascar. It has different impacts in sites targeted by the Project. In Bemanevika, illegal hunting and trapping affect fauna populations including bird species like *Ardeola idae.* In humid zone sites, the consumption of *Ardeola idae* chicks was observed.

Natural disasters: Cyclones are very frequent in littoral zones. They constitute threats to the forests (Tampolo, Mahabo, Pointe à Larrée and Manombo). Moreover, the impacts of climatic change cause some habitats to be modified (e.g.: lake drying or silting) or some forest species to become vulnerable (e.g. forest species phenology is disturbed due to irregular precipitation, leading to the reduction of their potential reproduction).

Invasive species: Biological invasion of exotic species constitutes important threats for natural ecosystems and endemic biodiversity. Invasive species can compete with endemic species, for nutrition as well as for habitat. These risks reduce the potential values of some socio-economic species that are useful for food and construction, for example. In the Betampona INR (forest at medium altitude), some management measures on Chinese guava (*Psidium cattleianum*, Myrtaceae) are necessary. This species is threatening the ecological function by invading the understories. Invasive species are also a threat to the targeted key species which are located in eastern humid forest at a rainy zone where invasive species have become prominent. *Psidium cattleyanum*, *Clidemia hirta*, *Lantana camara* and *Rubus mollucanus* are the main invasive species covering large areas in the eastern areas of farmlands and forests.

Collecting eggs and chicks of <u>Ardeola idae</u>: Eggs and chicks of *Ardeola idae* are collected by local populations for consumption in some areas. That is a threat which would reduce potentiality of the species reproduction.

<u>Institutional Arrangement for Biodiversity Management:</u>

Biodiversity is a very vast domain; its management depends on several institutions although the main responsibility belongs to the Ministry of Environment, Ecology and Forests (MEEF) in Madagascar. The multitude of institutions working on Biodiversity comes from the fact that the field touches different sectors and is of interest to different groups of stakeholders.

The Ministry of Environment, Ecology and the Forests (MEEF) through the Directorate of Biodiversity Conservation Direction and the Protected Areas Systems (DCBSAP), and acting as the focal point regarding biodiversity, is the leader in the field. The regional ramifications of the Ministry (Regional directions of the Environment and the Forests (DREEFs)) are responsible for the monitoring and control of the activities. There are 22 DREEFs in the country.

The Ministry, under the government supervision, is in charge of submitting the policies, the programs and the rules for adoption at different levels (Council of Ministers, National Assembly, Senate, High Constitutional Court).

Afterwards, the organisations attached to the Ministry contribute to the realization of the governmental objectives. Among others, they are: the *Silo National des Graines Forestières* (SNGF) - National silo of forest seeds, the Madagascar National Parks (MNP), the *Service d'Appui à la Gestion de l'Environnement* (SAGE), -Support service for environmental management, the *Office National of Environnement* (ONE)-National office for the Environment.

The Madagascar system of protected areas constitutes the major part of Biodiversity management at national level. It is directed by the Ministry of Environment and Ecology with the protected areas being managed either by Madagascar National Parks (MNP) or by other entities like NGOs (MBG, Conservation International, WCS, etc.) or public institutions (University, Research Centers, etc;).

Managing biodiversity at the genetic resource level for forest plant species is operated by SNGF (Silo National des Graines Forestières). Currently, the mission of SNGF is the production and the distribution of forest seeds to be used in tree plantings and reforestation in Madagascar. For this, the institution practices the genetic improvement of forest species, the selection of populations for seed collections, the treatment, the storage and the distribution of seeds. To support these activities, SNGF undertakes applied research on forest plant physiology oriented toward genetic resource reproduction and conservation [RAMAMONJISOA, 2007].

Then, there are some national NGOs such as *Madagascar Voakajy*, *Association Vahatra, Asity Madagasikara* and international NGOs like The Peregrine Fund, World Wide Fund for Nature (WWF), World Conservation Society (WCS), Conservation International (CI), Madagascar Fauna Group (MFG), Durrell Wildlife Conservation Trust,etc.).

Apart from their participation in the conception, the organizations attached to the Ministry and the NGOs are also the leading actors in the operational management of the Biodiversity. The Ministry and these organizations also collaborate with public or private institutions like the universities, the Research Centers, the economic operators (such as mining ecosystem-based approach for the conservation of Biodiversity anies or touristic agencies).

In terms of funding, Madagascar has two foundations (*Tany Meva foundation* and Foundation for Protected Areas and Biodiversity of Madagascar or FAPBM) and is supported by different international organizations such as UNEP,UNDP,IDA, the World Bank, KFW, USAID etc. in the framework of a project (limited period of implementation).

Local communities are usually organized into farmers' associations working with protected areas.

Management of the Project sites

The five types of Biodiversity management stakeholders, namely, the decentralized services of the Ministry of Environment, Ecology and Forests (Regional Directions of the Environment, ecology and forests or DREEFs), the attached organizations, the NGOs , the universities, the local communities, financial partners are the stakeholders working at the GEF/UNEP Project sites "Conservation of key species".

In addition, supporting institutions in socio-economic development have actions at some sites. These institutions collaborate with the below mentioned actors to complete Biodiversity conservation activities by improving the livelihood conditions of the populations.

The DREEFs involved in the Project are spread across 10 regions - four in Melaky, Boeny, Sofia and Menabefor the bird *Ardeola idae* sites and 7 in Analamanga, Alaotra-Mangoro, Amoron'I Mania, Vatovavy Fitovinany, Atsinanana, Analanjirofo and Atsimo-Atsinanana for the sites of the target forest species.

Table 3: Partners network of the project

Areas	Region / DREEF	Sites /	Institutions
Eastern littoral forest	Analanjirofo	Pointe à Larrée (flora site)	MBG (NGO)
	Analanjirofo	Tampolo (flora site)	ESSA- Forêts (University) AVERTEM (International Association)
	Atsimo Atsinanana	Manombo (flora site)	MNP (Public Association) Durell (NGO)
	Atsimo Atsinanana	Mahabo Mananivo (flora site)	MBG (NGO) Community Association Soazagnahary
Eastern humid forest at low and medium altitude	Atsinanana	Betampona (flora site, protected area)	MNP (Public Association) MFFG (NGO)
	Alaotra Mangoro	Bekorakaka (flora site)	CI (NGO) SNGF (MEEMF)
	Analamanga	Ambongamarina (flora site)	Fanamby (NGO) Tany Meva Fundation, Fenoala (NGO)
	Analamanga	Tsiazompaniry (flora site)	Tsarafara Association, Tany Meva Fundation,
	Amoron'I Mania	Sandrandahy (flora site)	Rural Municipality of Sandrandahy
	Vatovavy Fitovinany	Ranomafana (flora site)	MNP (Public Association) ValbioMicet (NGO)
Western and northern zones with lakes	Melaky	Tsimiembo Manambolomaty (site of *Ardeola idea*)	TPF (NGO)
	Melaky	Mandrozo (site of *Ardeola idea*)	TPF (NGO)
	Boeny	Ankarafantsika (site of *Ardeola idea*)	TPF (NGO) MNP (Public Association)
	Boeny	Mahavavy Kinkony (site of *Ardeola idea*)	Asity (NGO) TPF (NGO)
	Sofia	Bemanevika	TPF (NGO)

		(site of *Ardeola idea*)	WWF (NGO) MNP (Public Association)
	Menabe	Ankevo (site of *Ardeola idea*)	Durell (NGO) TPF (NGO)

MNP (protected area management), SNGF (biological study of species and collect of endemic species seeds) and SAGE (support to forest management transfer) are the attached organations to MEF and work at the Project sites.

The University of Antananarivo, via the Forest and Water Department in the Graduate **S**chool of Agronomy participates at the site of Tampolo. The national research center for the Environment (CNRE) works in Tsiazompaniry.

The financial partners (*Tany Meva foundation*, FAPBM, FFEM, Mc. Arthur foundation, LCF, USAID etc.) support the other actors like the NGOs, the local communities and the attached organisms.

In most sites, the local communities possess management transfer contracts of natural resources, to be precise on forests, and are directly involved in the Project sites. They are also participating in reforestation, restoration and forest patrol activities.

The baseline scenario and associated projects:

As described in the PIF:

Working closely with international partners, the Government and the people of Madagascar have made great efforts to conserve the biodiversity, mostly through an ecosystem-based approach, the core of this being the establishment of a growing number of protected areas. The policy, legal, institutional and regulatory framework has been developed. One important step was the establishment of a network of National Parks – covering 1.7 million hectares – and managed by Madagascar National Parks. In recent years, as result of national high authorities', particularly the President's, commitment to conservation, this has been expanded to cover an additional 93 New Protected Areas (NPAs) covering an additional 4.7 million hectares (now covering more than 10% of Madagascar's land). Each NPA was established through a byelaw and has a national or international promoter to support implementation. This network is currently being strengthened to ensure marine, coastal and wetland ecosystems are covered adequately.

In addition, nationally, some steps are being taken to complement the ecosystem-based approach with a *species-based* approach to conserving biodiversity. This species-based approach targets the conservation of unique, endemic, valuable and threatened species. As background works, it is worth to note that various conservation strategies and plans for conservation of such key species have been developed in Madagascar and partially implemented (e.g. for amphibians, chameleons, crocodiles, lemurs, turtles, birds, vositse and *Prunus africana*). For example, with support from The Peregrine Fund (PF) there has been some success on the conservation of the Madagascar Pochard; the Durrell Wildlife Conservation Trust has helped with the conservation of several endemic fish species, and; Conservation International have successfully supported the improved status of an extremely rare endemic Red Frog. Other species that have been part of the background activities include:

- *Prunus Africana* (Rosaceae): In 2005, the specie has been investigated in humid forest of middle altitude, in order to come up with its sustainable management strategy. The activities conducted include inventory, training of local communities for sustainable bark collection, promotion of propagation techniques, economic analysis and development of specific regulation for its exploitation.

- *Khaya madagascariencis* (Mileaceae): this specie is endemic to Madagascar and has been subjected in 2006 to the establishment and evaluation of conservation plantation in various provinces and in collaboration with partners;
- *Dalbergia monticola* (Fabaceae): It is one of target specie for this project. It is precious wood specie of humid forest of middle altitude endemic to Madagascar and which has been subjected to investigation in 2008 to understand its genetic biodiversity, reproduction pattern and impacts of fragmentation of its habitat;

At the site level, there are three kinds of baseline projects:

- Socio-economic development projects ongoing around the site. These focus on livelihood improvement. This includes the actions of the Ministry of Agriculture to develop watershed protection, and this includes the actions of the Ministry of Environment and Forest (MEF) to support forestry and agroforestry. Typically in relation to the current GEF project, these projects can also have a positive impact on species conservation. They can provide a channel for research, training and awareness raising on the species to be protected.
- Biodiversity conservation projects that focus on protected areas or ecosystem conservation. This includes the actions of many national and international NGOs and research organizations. Without this GEF support, these projects are a missed opportunity to contribute to species conservation. The stakeholders are unaware of the species present and their value, and activities neglect these species. With some modification from GEF, these baseline projects can (i) ensure species are used to as a criteria in development of protected area management plans (ii) ensure all stakeholders are fully informed about species (iii) ensure stakeholders know how to integrate activities that help conserve the species (iv) place the species conservation at the heart of the protected area management;
- Activities focused on species conservation. There are a number of activities at various sites focusing on the Madagascar Pond Heron; there are very few focusing on the tree species.

Current baseline activities are also characterized by initiated activities which will be completed or reinforced by the project and or activities within some national institutions mandates. These baseline activities include:

(i) The *Dalbegia chapelieri*; *Dalbegia maritime* and *Dalbegia madagascariensis*: applied research on these rose wood species has started in 2012. The natural geographic location of these species is the coastal forest of the East. The work on these species concern inventory of the genetic diversity of these species and promotion of their in-situ conservation through various technics which will include artificial propagation and reintroduction in natural forests, domestication with local communities;

(ii) A project on forest restoration and agroforestry has acquired funding from Darwin Initiative and will be implemented in collaboration with the Royal Botanical Gardens of Kew. The project will be implemented in forest humid zones of middle altitude where 200 nurseries will be established in order to produce 150,000 seedlings of endemic species to be planted in 100 ha of forestry restoration and agroforestry areas. The programme is implemented through a local team of Malagasy botanists based in Antananarivo at the Kew Madagascar Conservation Centre (KMCC) and backed-up by UK-based expertise at RBG Kew. The programme is thematic and focused on biodiversity research, conservation and sustainable livelihoods. Funding is raised through project grants and public appeals. RBG Kew is implementing or planning the following projects covering conservation management and restoration in the Central Highlands, humid forest and littoral forest: (a) Itremo Massif Protected Area Project ($25,000 per year over 2013-2016, reviewed thereafter, a new protected area in Central Highlands, basic botanical and ecological research on issues such as fire and invasive species, forest management and restoration, seed banking of threatened species, agroforestry and sustainable livelihoods ; (b) Itremo-COFAV Agroforestry Project ($130,000 per year over 2013-2016, dependant on successful funding

applications and potentially extended to 2018. The partners are SNGF and Feedback Madagascar (Ny Tanintsika). Central Highlands (Itremo) and humid forest (COFAV): forest management and restoration, agroforestry and sustainable livelihoods); (c) Littoral forest restoration project (Project concept in development with Rio Tinto QMM, the aim is that this will solve technical constraints to littoral forest restoration leading to and informing other projects); and (d) Madagascar Forest Restoration Information Base Project ($50,000 per year over 2013-2018, estimated, dependant on funding and potentially scaled-up to include suitable partners on the ground for forest restoration work in key sites within different habitats (e.g. spiny, dry, humid, highland and littoral forests).

(iii) The National Tree Seed Centre (SNGF), which is responsible for the collection, production and distribution of seeds and seedlings, and is supporting forest restoration and ex-situ forest genetic resources conservation programmes. The SNGF is evolving to a sustainable public institution under the tutorship of Environment and Forest Ministry by opening a large partnership network for applied research on forest species to contribute significantly into Biodiversity conservation. SNGF gets financial resources from seeds, seedlings and services trade and is supported by partners. SNGF is implementing forest species conservation: ex situ (seeds bank and living collections), in circa (domestication with basic communities) and in situ conservation (forest restoration, enrichment, etc.). Annual turnover is around 200,000$ and about 30% of it are spent for research program focused on forest species.

Seedlings production in nurseries which will be installed in abandoned fallow land which will be reused by farmers. Appropriate measures including impact assessment if necessary, will be consider to avoid risk of invasion or any other negative environmental impact.

The Missouri Botanical Garden (MBG) which has a long running programme to research and describe flora species in Madagascar, and is increasingly involved in conservation of sites noteworthy for key flora species. It also has programmes to propagate and plant the seedlings of important, native tree species. MBG is the most effective organization on research and in sharing knowledge with its competence in field botany and taxonomy research for the Malagasy flora. MBG has particularly successful and innovative in achieving community-based conservation. MBG is promoter of 6 conservation sites in Madagascar's eastern rain forests. At each of these sites, they invest an average of about $45,000 in community-based conservation, and of this they invest roughly an average of $5,000 at each site on the propagation and plantation of seedlings of native tree species (ca. 45,000 seedlings produced and planted each year at the six sites combined). These species often include rare, useful and over-exploited species. It is expected that this level of activity or investment will continue of increase in forthcoming years.

(iv) The Peregrine Fund, which was instrumental (along with the Ministry of Environment and Forests, UNEP, Birdlife International) in the preparation of the *National Action Plan for the Madagascar Pond Heron* and is currently supporting limited implementation of this Plan.

(v) QMM is a mining company working at the south eastern littoral forest. For its environmental commitment, QMM does conservation activities focused on species. For that, the institution manages 3 new protected areas in the targeted region, establishes tree nurseries for seedlings production in the headquarters site and in villages for afforestation, restoration and rehabilitation purposes with endemic threatened and some exotic species. For these activities, allocated budget is about 300,000$ per year.

(vi) Madagascar Fauna Group (MFG) has 4 areas of activities: research, conservation, environmental education and capacity building for local communities. They work at two major sites: Ivoloina and Betampona (both are located in eastern region and included in humid forest area). In terms of conservation, MFG works since five years ago for threatened endemic species. MFG annual budget is

around 42,500$ per year.

(vii) The "Association de Valorisation de l'Ethnopharmacologie en Région tropicale et Méditerranéenne (AVERTEM) » is working in a littoral eastern zone of Madagascar. In Madagascar, AVERTEM's project is based in Tampolo forest, a new protected area managed by Water and Forest Department in graduate school of Agronomy in Antananarivo University. Their project aims to get knowledge and improve value of medicinal plants traditionally used by local populations; to contribute for health development and to sensitize on natural resources and biodiversity safeguard in the context of sustainable development. AVERTEM is annually organizing trees planting with medicinal selected species and mainly those rare and threatened. AVERTEM annual budget is about 17,000$.

(viii) Water and Forest Department in graduate school of Agronomy in Antananarivo University (ESSA-Forêts) is managing the Tampolo forest (in the eastern littoral forest) becoming a new protected area since 2006. The institution is working with local communities and authorities. Activities are also forester students' training and research program for biodiversity and species conservation. Expected objectives are: in situ conservation for threatened species. ESSA-Forêts has about 7,000$ per year for its project.

(ix) Madagasikara Voakajy is an Association created in 2005 and has as vision "natural ecosystems, habitats and species of Madagascar are conserved and sustainably used for Malagasy people benefits". For that, reducing threat and pressure on natural resources is the principle adopted. MAVOA works in several zones including humid forest at medium and low altitude. Most of sites managed by MAVOA are integrated in protected area system. The Association has about 180,000$ as annual budget for conservation.

(x) Wildlife Conservation Society (WCS) is working for forest restoration to extend trees area in Masoala, Makira and Baie d'Antongil zones. It has several projects: in littoral forest neighboring the Masoala protected area, in Masoala park and in Makira forest. Fund come from different foundations which have contract with Zurich Zoo. Restoration is made from seedlings of endemic species such as *Dalbergia sp., Symphonia sp. and Uapaca sp*. produced with local communities in tree nurseries. 22,800 $ per year is the annual budget for these activities.

Within the different thematic surveys done by national consultants during the PPG phase, information was collected from the different project sites. This offered baseline analysis and gaps (from the different project partners in addition to baselines presented in the PIF):

Missouri Botanical Garden (MBG) is managing two new protected areas (Pointe à Larrée and Mahabo Mananivo) that are targeted sites. The main objective of MBG is to ensure sustainable management of the natural resources by the local population. To this effect, diverse activities were designed to increase the populations' income level to ensure sustainable conservation of the natural resources through tree planting and forest restoration. Actions of MBG are closely linked to those proposed by the Project because they concern the two first components on participative strategies and capacity building on species regeneration. The perspectives on environmental and social safeguards are the same as those implemented by MBG. However, the gap observed is related to lack of species targeted for conservation actions. The project would therefore enhance the actions of MBG in this aspect.

The Peregrine Fund (TPF) is managing three new protected areas targeted by the project, namely Bemanevika, Tsimembo Manambolomaty and Mandrozo sites. Current actions by TPF are focused on: i) eco-tourism development, ii) safeguard of the traditional life style and improving livelihoods, iii) sustainable and rational use of natural resources. The project will complete this approach by focusing specific conservation actions to *Ardeola idae*. TPF implements a safeguard plan through supporting activities that generate income like: regulatory fishing, improved rice cultivation, stable cash crops and fruit tree cultures (citrus) and eco-

tourism development. TPF also supports the land tenure process for the communities living near the NPA and integrates the management of the site in the local development plan. By conserving *Ardeola idae* population and habitat in these sites, the project will enhance these TPF ongoing activities.

Madagascar National Parks (MNP) managed 4 protected areas included as targeted project sites (Ranomafana, Manombo, Betampona and Ankarafantsika). Conservation activities include installing peripheral fire breaks, green belts, supporting development activities generating income for the local populations, rehabilitation works and infrastructure construction. MNP works with the local communities through the local park committee and the patrol officers. MNP is collaborating with different partners to promote ecotourism, community social and economic development, awareness-raising, research and training and education on conservation, safeguard of the cultural and natural heritage. Ankarafantsika national park contains a natural lake, habitat of several aquatic fauna including *Ardeola idae.* The approach adopted by MNP is similar to what this GEF/UNEP project is expecting to use with an incremental benefit by targeting species for conservation.

Welthungerhilfe (WHH) is an NGO collaborating with MNP around the protected area of Manombo. It is active in reforestation. Actions by MNP and WHH are complementary towards Biodiversity conservation and sustainable use. Manombo is a site in continuous degradation due to anthropogenic pressure. Local community involvement is not sufficient and they are not significantly aware of the necessity of conservation. They are not motivated to change their traditional habits. The project would particularly consider these gaps to support previous and current actions in the site.

Madagascar Fauna and Flora Group (MFG) is involved in Betampona site which is one of the project sites. Betampona includes Integral Natural Reserve managed by MNP. MFG takes care of the surrounding areas in a forest management process (forest restoration) with local communities. A partnership approach between MNP and MFG to work both inside and outside of Betampona protected area is a suitable model to ensure Biodiversity conservation. This aspect highlights the species-based conservation envisioned by the project. The project will improve the situation by enhancing local capacity on conservation for both entire ecosystem and targeted species.

The Association de Valorisation de l'Ethnopahramacologie en Région Tropicale et Méditérranéenne (AVERTEM) and the Water and Forest Department of the Graduate School of Agronomy (ESSA-Forêts) have complementary activities in Tampolo protected area: ethnopharmacology assessments, the *pedagogic* medicinal garden management, awareness raising and the conservation of endemic species used by the population in traditional medicine, forest enrichment and restoration, ecotourism development, management of threats and the fight against pressures (control of illegal exploitations), income-generating activities for local communities. Activities conducted by ESSA-Forêts and AVERTEM are coherent with what the Project expects to do. Also, species targeting is weakly applied, apart from medicinal use criteria. These gaps would be managed by the partners of the GEF/UNEP Project.

The NGO Durrell Wildlife Conservation Trust undertakes research activities on some particular birds. The conservation is oriented towards the species habitat in partnership with the local communities (since 2003). Aquatic bird species are targeted by DURELL. Also, *Ardeola idae* is included in this group and within the project; its conservation should be also enhanced.

The NGO Asity is working at Mahavavy Kinkony protected area included in the MRPA network financed by GEF/UNDP. As *Ardeola idae* regularly visits Lake Kinkony, it is integrated in the project site. Littoral forest restoration project is in development with Rio Tinto QMM, a mining private company in the very south-eastern part of Madagascar. The project will aim to solve technical constraints to littoral forest restoration leading to and informing other projects. The QMM is also promoting a Madagascar Forest Restoration Information Base which it is hoped will offer technical support for restoration work in key sites within

different habitats (e.g. spiny, dry, humid, highland and littoral forests). The company is also engaged to co-finance activities in Mahabo Mananivo (site included in Agnalazaha protected area managed by MBG and included in the present project).

Eastern forest of Madagascar is nominated as a global heritage by UNESCO programme. Also, actions aiming to this ecosystem conservation are taking place by several partners financed by FAPBM. The project on "key species conservation "should develop collaboration with this program as habitats of targeted species are in this ecological region. Also, the program is developing capacity building to managers of Ranomafana National Park which is included in the project sites

The project will also work at landscape natural resources management for key species conservation:

- In **Bekoraka** site, the main actors are the local communities holding management transfer contract with the Forest service. The local communities work with Ambatovy Project (Mining Company) and the SNGF for endemic tree seeds valorization.
- In **Ambongamarina,** forest management (1,282 ha) was transferred by the Forestry Administration to the local community. In terms of forest conservation, the NGO FANAMBY is developing ecotourism and undertaking forest restoration. The local communities' actions are supported technically by forestry service and administratively by the Community.
- **Tsiazompaniry** site has two management statuses: a management transfer (GCF) and a local leasing agreement managed by the civil society organization Tsarafara. The Tany Meva foundation is supporting actions in Tsiazompaniry (forest enrichment, ecotourism promotion, fish culture, etc.). Despite the transfer of management to local communities, there was no training given to them on conservation actions. The Project will fill this gap by ensuring both conservation for targeted species and reforestation and to help the local population on sustainable use of natural resources.
- **Sandrandahy** forest has not been specifically managed by any supporting organization. It should be attached to the local forest service and the rural community of Sandrandahy. These stakeholders seem to be playing their role well with regard to the current state of the forest, located near the village. Elsewhere, existence of threats such as wild straying of livestock needs to be managed by procuring alternatives to feed the zebus. The project would safeguard plant-targeted species regeneration and the entire forest.

BARRIERS TO BIODIVERSITY SPECIES CONSERVATION:

Limited knowledge and consideration of the species-based approach to biodiversity conservation: National decision makers are not conscious of the necessity to place key species conservation as high priority. Species are rarely used as a successful management criterion of protected areas. Conservation efforts are more focused on ecosystems, although the existence of significant species is recognized inside and outside protected areas. Moreover, very few financial resources are allocated to species conservation. The vast majority of investments, studies, awareness raising activities, institutional capacity building are concentrated on the ecosystem approach without exploring the added value that an alternative based on species approach in the field of biodiversity conservation can produce. Indeed, the ecosystem approach allows combining a performance with an area indicator without necessarily guaranteeing that all the important species are really conserved.

Some threatened taxa are already subject to a specific strategy or action plan. Efforts may be increased to ensure effectiveness of conservation by considering genetic resources aspects. The GEF/UNEP project would make the difference in this topic because its implementation would be in different areas of the island corresponding to a natural range of each targeted species. Also, supporting species natural and artificial reproduction would enhance ability of conservation.

An added value will be generated by conducting concrete actions on conservation target species both inside and outside of protected area ecosystems. The added value will be generated by the acquisition of knowledge about an endemic species behavior and evolution in its undisturbed natural environment, inside a protected area; knowledge that allow to trace the mode of conservation coupled with a sustainable use outside the protected areas for the satisfaction of the populations needs.

Limited enabling capacity and incentive environment for local contribution to the conservation of target species: The process of the local population involvement in the implementation of a conservation project is unclear and in many cases lacking - effective involvement will reduce or even cancel the threats. At some sites, the populations do not feel fully involved and remain as observers of the supporting organization effects and acts. At those sites, conservation is unsuccessful because persistent threats and pressures on resources are noticeable. Paradoxically, it was observed in some sites that the absence of a typical type of 'top-down" natural resource management in a zone does not necessary lead to a more advanced degradation of the resources. The remaining natural forest in the vicinity displays relatively little degradation even without supportive actions. It seems that the local authority (the Mayor) is aware of the importance of protecting the forest and leads the population in its protection. Excessive restriction on access to resources would lead to negative impacts: the degradation persists in strict conservation zones, where there little engagement of the community and allowance of use, for *local needs satisfaction.*

The intervention of technical public services is necessary in its role of principal resource manager. Shortages of staff, materials and finances lead to a very low level of intervention. This does not allow technical support and the necessary monitoring of conservation actions. The consequences are perceptible in terms of the seriousness of threats and pressures, favoring the upsurge of illegal wood cuttings. Generally, when a public administration is the manager, it is characterized by weak involvement and support. More often, this situation is a result of a lack of means available to decentralized services (specifically cantonment). The local communities or the institutions that depend on these services (the studied sites for a large part) have support problems concerning control and monitoring etc. The distance between the resources and the local representatives of the concerned services is also one of the factors exacerbating this situation. Concretely, the number of controls, supports and effective monitoring are very insufficient.

At different sites, it was noted that there are very few verbalizations of the pressures in the area. This demonstrates the little capacity for offence detection of the forestry administration.

In addition, it has been many times evoked that the cases on forestry offences that were verbalized and transferred by the Forestry Administration to the court are not subjected to monitoring and most of time are dismissed for two reasons: (i) either the procedure for establishment of infringement (local communities jurisdiction, in practice) via the verbalization procedure (forestry administration or police forces' jurisdiction) to the creation of records (especially the evidence) is too heavy and long, leading to a lack of evidence and charge pertinence depending on the ascertainment made; and (ii) forestry offences (and specifically the precious wood traffic) is a privileged sector to corruption and charges are dropped.

Other public institutions apart from the Forestry Administration, including those responsible for regulating agriculture, animal husbandry, fisheries, tourism and security, also have weak regulatory capacities.

Political and legal rights granted to certain entities have a very serious impact on the local population behaviors. One individual who is transgressing the laws without sanction on the exploitation and the use of resources can demotivate the local populations and, even worse, can lead them to adapt their own uses to do infractions. Trafficking of precious woods (notably, rosewoods) is frequent in several regions but sanctions related to them are practically non-existent. Corruption by people with financial and/or political influence is one of the reasons of this situation.

The in-general poor local communities in rural areas of Madagascar are unaware of the importance of the key species in their region. They are more concerned about their livelihood. Thus, they do not have any alternatives to their current practices that threaten the key species. In addition, communities consider that the conservation, especially through protected areas, is depriving them of access rights to resources to which they were accustomed. They must therefore be sufficiently and efficiently supported in the satisfaction of their daily needs, through other means, while ensuring in parallel conservation of ecosystems and/or key species.

Limited knowledge on species conservation and dissemination strategy: The scientific and economic understanding of key species is poor. Although key species are known, little is known of their biology, their physiology, their distribution and their potential economic uses. This detailed information is, however, vital in designing a key species conservation approach to complement the ecosystem based approach. The steps for successful in-situ conservation focused on species inside protected areas are not yet developed. Actions are limited to ecological monitoring and to passive conservation without a guarantee of resource sustainability.

A. 5. Incremental /Additional cost reasoning: describe the incremental (GEF Trust Fund/NPIF) or additional (LDCF/SCCF) activities requested for GEF/LDCF/SCCF/NPIF financing and the associated global environmental benefits (GEF Trust Fund) or associated adaptation benefits (LDCF/SCCF) to be delivered by the project:

COMPONENT 1: Development of a participative approach based on the species for the conservation and the sustainable use of the biodiversity

The first component is to establish conservation strategies based on species. For this, the different actions are:

- information, awareness raising and basic training of all the stakeholders, particularly the local communities and political decision makers;
- scientific investigations to improve the knowledge about the 21 key species(Biophysical and socio-economic studies) :
- local and national consultations for the elaboration of the 21 key species conservation, taking into account the learnt lessons from other experiences (at regional and global levels) and providing the effective implementation measures;
- signature of a collective agreement (established after consultation process at different levels) on the species conservation strategy implementation to ensure effective commitment and involvement of all stakeholders.
- The outcomes of component 1 are:
- *1.1. Biodiversity conservation based on species approach is known by all stakeholders*
- *1.2. Social and economic values, technical and scientific knowledge on the 21 key species are available.*
- *1.3. A local collective convention is implemented, with support from local stakeholders, for the 21 targeted species in the project intervention sites.*

Outcome 1.1 will be achieved through general awareness-raising to all stakeholders at local and national level. Importance and complementarity with the current ecosystem conservation through protected areas will be the main focus of the awareness session.

At national level, information for the awareness-raising will be drawn from the learnt lessons from the project intervention sites in order to take into account of the socio- economic context and the local stakeholders. For this, deep diagnostics on the existing capacities and the observed gaps will be conducted to design and conduct improvement and corrective measures to undertake in the new Biodiversity conservation strategies focusing on the 21 target species. Analysis of gaps for previous and current actions in the different sites offer

issues to be addressed and new orientation to follow to ensure effectiveness of complementarity with the ecosystem conservation approach by the project focused on targeted species. The actions and positive results of ecosystem conservation within protected areas will particularly be taken into account (MNP actions), and technical, social and economic support offered to local communities (as in Mahabo Mananivo from MBG or in Betampona from MFG).

The review of the learnt lessons (results of strategy and action plan established for some taxa) from national experiences has provided some elements for the conception of the key species conservation strategies. For that, the project will be implemented by:

- working at different geographical sites through natural range of each key species, in protected and non-protected areas;
- adding species conservation to ecosystem management;
- developing knowledge enhancement to ensure species conservation and sustainable use;
- enhancing preservation of species through population increasing (propagation of plant species and reproduction management of *Ardeola idea*)
- involving different local stakeholders, starting from the local populations (households) to reduce pressure to the species and their habitats
- supporting local livelihoods

Experiences in Africa and other countries have also provided some lessons for key species conservation strategies:

- Contributing to the implementation of global initiatives aiming for biodiversity conservation based on species;
- Ensuring survival of key species with intervention inside and outside of protected areas;
- Improving species resilience to climate change by enlarging actions of conservation outside of protected areas;
- Approaching the local population with techniques related to their survival practices (including agroforestry and domestication systems in conservation actions) and supporting them with social and economic incentives;
- Strengthening knowledge about the species reproductive biology and physiology multiplication to train and mentor local communities;
- Promoting biodiversity conservation at genetic resources level by acting at several sites of distribution for key species.

"please see Annex O added for CEO document"

These lessons will be adapted according to the different factors determining the success of conservation: social, economic and ecological factors. A model adapted to the local context (at the intervention sites of the project) and national context (at the country level) will be elaborated based on these different variables. For all these processes to be smoothly implemented and agreed, an awareness-raising campaign will be conducted concurrently.

For the migratory bird species *Ardeola idae*, awareness raising program should be specifically conducted in two steps: before the species' arrival in Madagascar (May- September) and during its presence on the Island (October –April).

— Outcome 1.1. indicators : Biodiversity conservation based on a species-based approach is known by all stakeholders

- Number of key stakeholders aware of viable approaches to conservation of the key species in their localities
- MT: 50% of habitants in 56 targeted villages aware of key species conservation
- EP: 80% of habitants in 56 targeted villages aware of key species conservation

Expected output with this result is *1.1.1: Awareness raising programme for different actors (local communities, technical agents, local authorities) in support of the conservation of important species.*

Outcome 1.2 on knowledge improvement will be done through studies and researches in different areas: forestry, ecology, biology (animal and vegetal) and economy. The objective is to collect all the necessary information for the key species conservation actions. The status, ecology, biology, and socio-economic values will be investigated, together with the other values of each species. The research results will support conservation strategies and the sustainable use of the species and derived products.

Currently, knowledge is focused on one or two scientific disciplines and due to lack of financial resources, investigation takes place in only one or two sites. That presents a gap because conservation efficiency depends on several related factors, and species conservation must consider as much as possible of the natural range of the genetic resources.

Different forms of communications on the research achievements and on their practical exploitation will be established and addressed to the different stakeholders of species conservation.

— Outcome 1.2. indicators : Social and economic values, technical and scientific knowledge on the 21 key species is available

- Numbers of key stakeholders with regular access to information on the 21 key species
- MT: 4 target groups such as local communities, local authorities and technicians, forest administration, technical and financial partners receiving the research results and exploit them for conceptulization of key species local conservation strategies
-
- EP: All national stakeholders representatives partners receiving the research results and exploit them for conceptulization of key species local conservation strategies
-
- Numbers of sites where local knowledge is incorporated and applied in the conservation strategies for key species
- MT: Local knowledge is assessed and strategy for imclusion in conservation strategies for key species in the 16 project sites are conducted
-
- EP: Local knowledge is included and applied in the conservation strategies for key species in the 16 project sites

Three outputs would support the achievement of Outcome 1.2, namely:

- *1.2.1.: A Research plan on biological, physical, ecological on the 21 target species to support their conservation actions.*
- *1.2.2.*: *A completed sector-based economic analysis of services and derived products of the 21 global and national significant species.*

Outcome 1.3 will be achieved through the formalization of the commitments of stakeholders (whose awareness and basic capacity will be raised) on the conservation of the species. The stakeholders to be involved will be: local populations; traditional and administrative authorities; local public officers within the

forestry, agriculture, fisheries, husbandry animal and land tenure services; agents of non-governmental organizations; researchers and decision-makers in the departments of central government.

This approach with a multiparty agreement is an innovation of the project because it brings together a wide type of actors in one agreement to make various actions converging towards species conservation objective. The approach will also involve the existing thematic or production sectors associations and a particular focus and strategy will be developed for those groups which will potentially oppose. The approach will be assessed at middle term and necessary adjustment will be included.

To do this, technical and administrative tools will be developed and shared with all the actors. These will include:

- Technical guidelines for species conservation inside and outside of protected areas (PA management plan, Species conservation plan);
- Manuals for the evaluation of conservation performance indicators (monitoring and evaluation system using Management Effectiveness Tracking Tool);
- Charters of responsibility under the convention involving different signatories (Cahier de charge, Dina),
- Procedure handbooks for the different implications/implementations (Annual work plan, Annual progress report)
- Strategic orientation document for the integration of conservation in development plans (Communal Development Plan, Schéma Regional d'Aménagement du Territoire ou SRAT, Schéma d'Aménagement Communal ou SAC),
- Posters, leaflets and brochures for awareness, information and training

These elements relate to the collective implementation for the sustainability of the actions in the local development process associated with key species conservation living in different sites: protected areas, Ramsar sites, classified forests, forest stations, forest reserves, communal properties or private lands.

The model of management transfer contracts between the Forestry Administration and the local communities will give the basis for the collective agreement elaboration. These models will include other stakeholders (such as: local authorities, technical services, researches and economic operators) for whom the rights and obligations will be specified for each entity.

The collective convention model to be used is that annexed to Decree n° 2000 – 027 of 13th January 2000, regarding Base Communities with responsibility for the local management of renewable natural resources (please see the annex of the thematic report on socioeconomic aspects and natural resource management). This model consists of all the processes needed to set up a GELOSE or GCF CBNRM, including local awareness raising, stakeholder consultation, the elaboration of the Cahier de charge and Dina, and the officialisation and implementation (management actions). Management includes local association structure, community control and surveillance, ecological monitoring, habitat restoration, support to community development, and evaluation from Ministry Departments.

This will be modified to adapt it to the specifications relevant to the objectives of the project

Moreover, the collective convention will be commonly designed, and will include social, cultural, economic and technical aspects.

"Local Collective Conventions" are well founded in national legislation and have been widely applied throughout the country as the framework for community based-natural resource management (CBNRM, also termed 'management transfer to local community' or TGRN in the proposal document).

Under the current legislative framework, "local collective conventions" (also termed 'cahier de charge' and 'dina', or bylaws) are the main official management documents for CBNRM/TGRN. Their elaboration must be made in consultation with all the stakeholders, especially the local community represented by the local associations. The 'Cahier de charge' are also signed by the Regional director of the Environment and Forests, the Regional director of the Fishery, Mayor, and president of the association. In fact, the CBNRM system is govern by the GELOSE law (Law n°96-025 on Secured Local Management) and GCF or Contractual Forest Management (Decree n° 2001-122). While the 'Dina' must be stamped by the local authorities (mayor, chief of District) and then approved by the court (tribunal) through the homologation process in order to be official.

In Madagascar, there are more than 500 TGRN; e.g, The Peregrine Fund, one of the main project partners, has created and supported 19 GELOSE associations since 1997. All of them are currently functioning and efficient.

Actions for promotion of economic and incentives for conservation action plan should be discussed with the local stakeholders to offer alternatives and compensations against negative impacts in the populations livelihoods.

— Outcome 1.3.: A local collective convention is implemented, with support from local stakeholders, for the conservation of the 21 targeted species in the project intervention sites.

- Numbers of collective agreements for species conservation provided with "Dina", signed by village chiefs and supported by local stakeholders
- MT:
- - 16 Collective agreements for species conservation, provided by « Dina » and by "promotion of economic and incentives for conservation actions"
- - 64 village chiefs have provided signatures and/or finger prints for the collective agreements
-
- EP: 75% of stakeholders in the target communities express support to the local collective conventions

The following outputs will therefore contribute to Outcome 1.3:

- *1.3.1.*: *Conservation strategies of the species to complement ecosystem management (prepared in participatory manner with the involvement of the local community representatives)*
- *1.3.2.: Technical and administrative tools for the application for the collective conventions*
- *1.3.3.: Model of collective convention for species conservation strategies*

COMPONENT 2: Local strategy implementation by concrete actions to conserve target species

The second component will demonstrate the conservation of the 21 key species. It will be a process involving all the concerned stakeholders for whom their capacity to conduct species conservation will have been strengthened. The purpose of this component is to ensure the long-term conservation of the 20 key forest plant species and the *Ardeola idae* bird species.

Local communities will have suitable technical capacity after comprehensive training on targeted species conservation. With regards to their motivation, an economic and incentives strategy will be developed to mitigate negative impacts of conservation actions (perturbation of the population habits in the use of natural resources, restricting access to resources, prohibition of target species habitat destruction, etc.). For that, alternative livelihoods will be supported such as development of incomes generative activities (e.g ecotourism, fish farming), small infrastructure projects (with other financial partners), intensification and farming equipment.The project will build on experiences already generated in the country by partners such as the Peregrine Fund, aimed at avoiding, reducing or compensating any possible social impacts resulting from conservation actions. The proposed strategies aim at maintaining or increasing of the diversity, the livelihoods of local people, in such a way that the social sustainability of the conservation actions are ensured. These alternative livelywood will include :

- The sustainable use of the existing natural resources (e.g.: agroforestry system which aims at ensuring soil protection and fertility and diversification of production)
- The introduction and diversification of income generating activities (beekeeping, fruit tree plantation, agriculture improvement, poultry, development of chain for local products),
- Direct investments in social projects (health and hygiene, wells, education, school building, school equipment, solar panel kits, support to local security).

Activities for the conservation of the 20 forest plant species will follow different steps:

- Participatory review of existing systems and how farmers manage the target species;
- Transfer of artificial regeneration techniques and assistance to the natural regeneration of species to preserve their population and maintain their gene pool in the community forestry framework;
- Transfer forest enrichment and restoration technique;
- Promotion of agroforestry systems, integrating legume species (*Fabaceae* family) which are nitrogen-fixing and soil fertilizer beside the role played by their roots in the preservation of the soil against the erosion. This will allow farmers to maintain fertility of the soil and sustain their production. Sinc legume species could have invasive characteristic, specific technical management by regular pruning before flowering period will be transferred to farmers. This also allows them to get green fertilizers for any other uses. The project will ensure proper monitoring of these species and if necessary an impact assessment, to ensure that the risk of becoming invasive is avoided at right time. Other targeted species of the project are– producing essential oil and medicinal plants (*Symphonia fasciculata*, Clusiaceae Family) or edible fruits (*Ocotea racemosa* [WERFF,2013], , Lauraceae family and *Weinnmannia comersonnii*, Cunoniaceae family). That will allow the farmers to diversify their production by introducing in their farmland new species. This option is supported by a Darwin project implemented by SNGF and other partners in Fandriana – Vondrozo forest corridor and Itremo zone (in the south-part and the central zone of the highland). The environmental services and the products offered by targeted species will enhance motivation of local populations to conserve them.
- Transfer of technical measures such as the population inventory and the demographic analysis to evaluate and reinforce the reproduction potentiality, guaranteeing the perpetuation of the species and contributing to the species conservation in the protected areas.

The *Silo National des Graines Forestières* (SNGF) will collaborate with technical partners established locally to give training to the different stakeholders in these activities and will transfer the necessary technical protocols that will have several steps such as: phenological monitoring, seed collect and treatments, nursery activities, forest enrichment, restoration and agroforestry.

For *Ardeola idae*, the species conservation actions will be essentially focused on habitat preservation. In the collective convention for the conservation of the species, particular mention on the support of the population livelihoods can be proposed by the project so that they abstain from collecting the eggs and chicks of the species. In fact, the eggs are collected for occasional food need. The support to the livelihood could for example be the provision of seeds and vegetable cultivation technics, the support for livestock activities, the improvement of their fishing equipment, the training for artisanal production and tourist reception. These actions will be included in economic and incentives for conservation actions plan, as a part of the collective convention.

The outcomes of component 2 are:
2.1.: *Enabling conditions created for the participation of local people in the conservation of the key species*
2.2.: Improved livelihood of local communities resulting from their support to conservation actions

Note: an improvement was done on the project identification sheet by formulating the results of this component 2 together as an expected product of the proposed actions rather than with the plants separately from the bird.

The achievement of **outcome 2.1** relates to technical capacity transfer for key species conservation as a logical continuation to the two preceding outcomes. In fact, awareness and commitments (according to outcomes and outputs obtained from the Component 1 contributes to the technical ability of stakeholders to contribute to the effectiveness of the species conservation strategies implementation.

The innovations brought by the project are that the conception starts from the local level before an adoption at national level. With this result, the local stakeholders will have the capacity and will be engaged in the 21 species conservation program. To make the model even more sustainable in regards to species conservation, actions on species conservation will be realized both outside and inside of protected areas.

— Outcome 2.1. indicators: Enabling conditions created for the participation of local people in the conservation of the key species

- Numbers of people with increased knowledge of strategies for the conservation of key species
- MT: At the 16 sites of the project 224 members of local communities, rural extension agents (20 forestry 10 agriculture,10 fisheries, 10 livestock, 32 agents from technical partners) have increased knowledge to implement strategies for key species conservation
-
- EP:
- - Local strategies consolidated to elaborate the national strategy on the 21 key species conservation
- - National strategies validated at central level
-
- Number of people or communities representatives involved in key species conservation actions
- Number of women involved in the project actions
- MT: Population of 4 villages per site (a total of 64 villages for the 16 sites) involved in key species conservation actions
-
- EP: Involvement of 80% of populations in the project intervention site and 50% of them are women

Following this result, expected outputs will be:
2.1.1: Management contracts transferred to local communities for implementation
2.1.2: Effective involvement of all stakeholders in the project sites for target species conservation

The management contract are the Contracts for the transfer of the management of natural resources or forest resources which are established between the local forestry Administration and local community organizations.

They are defined by Law No. 96-025 on Secure Local Management (GELOSE) of natural resources and Decree No. 2001-122 on the Contracted Management of Forests (GCF). GCF has three elements: management of use rights (customary rights), economic valuation in accordance with particular technical clauses, and forest protection.

GELOSE procedures are based on the internal regulation established by the organizations of local communities described in Decree N° 2000-027 regarding the management of renewable natural resources by local communities.

Oversight and control is ensured by the staff of the Forest Administration and Judiciary Police Officers, regarding the resources whose management is transferred to local communities and in accordance with the documents prescribed under the contract (exploitation and transport permits).

These arrangements address the vulnerability felt by local communities to external pressures and threats. Furthermore, participating communities also include local community associations termed CFL (Local Forestry Committee (Comité Forester Local or CFL) or Local Park Committee (Comité Local de Parc or CLP), which are in charge of the surveillance and the vigilance of the area and the natural resources.

Outcome 2.2: Improved livelihood of local communities resulting from their support to conservation actions. The project will provide economic incentives to local communities to reward their commitment to conservation of key species in the project sites and the surrounding protected areas. Inside of protected areas, passive conservation should be replaced by active one by natural regeneration and seed sources management for key plant species.

In fact, « passive » natural regeneration processes on their own do not necessarily ensure the persistence of ecologically-demanding endemic tree species. What is proposed is active management where natural processes of regeneration will be influenced by thinning and ground preparation, and where the productivity of phenotypically selected mother trees (seed trees) of the target species will be promoted by, for example, shade management through selective canopy thinning, complemented by the collection of seed and the production of seedlings in nurseries to augment natural tree populations.

Actually, most of sites of project implementation include protected areas. Economic incentives for conservation actions should be promoted within the local population to ensure their motivation to be involved in key species conservation actions.

The following measures will be developed by the project to ensure achievement of the outcome 2.2:

- Implementation of development activities as incentive for the local populations in their conservation effort in order to accentuates their motivations. A perennial activity ensures the population motivations (experience of MBG in Mahabo-Mananivo, littoral area in the south-eastern).
- The support and development activities as well as their duration have an impact on the success and the durability of the conservation projects. The support activities should be linked to the livelihoods of the local populations. This support will include:
- sustainable use of the existing natural resources (e.g.: agroforestry system which aims both to soil protection and fertilization and to farmer's diversification of production)
- introduction and diversification of income generating activities (beekeeping, fruit tree plantation, agriculture improvement, poultry, handcraft production, development of chain for local products, tourists recpetion), through technical training and management training of beneficiary households;

supplying materials (seeds, and equipments); support research to opportunities of uses and markets with new products;

- direct investments in social projects (health and hygiene, wells, education, teacher's salary subvention, school building, school equipment, solar panel kits, support to local security).
- The duration and the sustainability of the projects play a significant role in the long term efficiency of the implemented activities. To this end, maintaining the monitoring of development activities over a longer term initiated at the local population level in order to correct the different deviations related to conservation is very important. The regular consideration of the farmer's problems is necessary.
- The presence of a permanent local representative responsible (or later on, an authority) with decision authority and representing the supporting organism appears to be a significant factor in the involvement of the local populations. During the project implementation and after its end, local forest services will play a role in this aspect.

Outcome 2.2 An improve livelihood of local communities resulting from their support to conservation actions will supported by the following output: *Economic incentives/conservation friendly alternative livelihood models.*

— Outcome 2.2. indicators : Improved livelihood of local communities resulting from their support to conservation actions

- Number of beneficiaries of economic incentives for species conservation actions
- Number of women beneficiaries

- MT: The incentives and mechanism to deliver these incentives in support conservation efforts
-
- EP: 75% of habitants in the project targeted villages would get benefits from economic incentives from conservation actions (50% are women)
-

COMPONENT 3: Capitalization, dissemination and sustainability of the project achievements at national, regional and international scales.

The third and final component will ensure the sustainable exploitation and replication of the project achievements. At national level, the species based approach will be accepted as a pillar of biodiversity conservation in Madagascar and will benefit from the necessary political, strategic, legal and financial resources support. In this way, the approaches taken by the project will be replicated for other species in the same sites or in other new sites. This will coincide with the new National Biodiversity Strategy and Action Plan, aligned on the Aichi objectives. The lessons learnt from the project will feed into the contribution process to the Aichi objectives.

The expected outcomes of this component 3 are:
3.1. *New information related to species-approach in Biodiversity conservation are shared and disseminated to conservation actors*
3.2. *The importance of species conservation is recognized for the biodiversity sustainable management at different levels.*

Outcome 3.1 will be achieved by an adequate management of information from the different actions of the Project. This management will include local and traditional knowledge that deserves to be valorized and technical and scientific knowledge resulting from investigations carried out by Universities and Research Centers. The information dissemination is expected to gather feedbacks that can further enhance the effectiveness of the species conservation strategies. Currently, the existing databases in the country include the metadata (the Environmental Information Network Association or ARSIE), the global information on the

implementation of the CBD Clearing House Mechanism) and information based on ecosystems, especially protected areas (Madagascar Biodiversity Network REBIOMA). The innovation sought in the context of this project is to analysis the gaps related to the existannce of these data base particularly with regards to endemic species. The gap analysis should lead either to the development of a database on the endemic species of the country to complement the existing ones or design a mechanism by which the project will support the existing data base to fill the gaps particularly with regard to endemic species. The possible options is already being investigated during the PPG and the Information System Department of MEEF is supported to create and maintain the Ministry database on *Ardeola idea*, on wetland zones and on the Species conservation projects, as a decision support tool for the ministry departments

The strengthening of the existing data base and possible options to fill the gap will allow capitalizing the information related to the project. The gathering of information was started in the project preparation phase of the project. The information on the situation analysis and thematic studies by national consultants was integrated in a database and are capitalized by the Ministry of Environment, Ecology and Forests 'Information System Department (DSI/MEEF). The collation of this information allowed the observation of gaps in information at the different sites of the project. Access to the databases will be shared/made available with/to decision and policy makers (official use by the Administration). It will also be shared/made available to different managers from other targeted groups: REBIOMA for scientific use, ARSIE for civil society or NGOs, CHM (Clearing House Mechanism) linked to UNCDB implementation for global use.

Networking is developed with AWEA (The African-Eurasian Migratory Waterbird Agreement). The project will not create a new international structure, but will work toward advocacy for revitalization of the existing network called "Single species action plan: *Ardeola idea*". This working group is composed of two representatives per country (one from Conservation institutions, and one from the government), with 15 countries (DRC Congo, Burundi, Madagascar, Rwanda, Comoro Islands, Mozambique, Zimbabwe, Zambia, Malawi, Tanzania, Kenya, Uganda, Mozambique, Angola, Somalia). For Madagascar in particular, there are Rivo Rabrisoa (Asity Madagascar, ex-ZICOMA-Birdlife) president of the workgroup, and Zarasoa (MEEF, National Focal Point of CMS/AEWA). Also, Scientific reports and project reports are published regularly.

— Outcome 3.1. indicators: New information related to species approach in Biodiversity conservation are documented, shared and disseminated to conservation actors
  - Numbers of target groups informed on species-based approach for biodiversity conservation
  - MT: Tools and materials for dissemination of species-based approach for biodiversity conservation are developed
  -
  - EP: 6 target groups (local communities, decision makers, researchers, protected areas managers, funding partners, environmental NGOs) involved in Biodiversity conservation in 10 regions through the country, informed on species based approach for Biodiversity conservation

Outputs that will contribute to achieving outcome 3.1 are:

3.1.1*: Project database managed by the MEEMF Information System Department and recorded in other databases*

3.1.2: *Regional (Africa) networking allowing to capitalize and exchange information on Ardeola idae*

3.1.3: *Different tools and methods developed to disseminate the application of the collective conventions on key species conservation approach.*

Outcome 3.2 will be achieved by implementing a large communication campaign to different target groups to achieve the key species conservation. Output corresponding to the Outcome 3.2 is 3.2.1 Species conservation approach included in reference documents and funding programs related to Biodiversity.

— Outcome 3.2 indicators : The importance of species conservation is recognized in the Biodiversity sustainable management at different levels
  - Numbers of target species whose conservation and sustainable use is supported by regulatory texts
  - MT: Analysis of policy, legal and legislative framework related to species conservation
  -
  - EP:
  - - Conservation and sustainable use of species governed by regulatory texts (long-term)
    - Inclusion of species conservation and sustainable use in different policy documents

Incremental Reasoning:

To enhance significant levels of commitment to conservation, through an extensive protected area network covering >10% of the national territory, conservation strategies and action plans for a number of other species/groups and important levels of local and scientific knowledge for some of the key targeted species, the GEF/UNEP project will complement this approach by targeting promotion of conservation based on species, participative approach and linkage with social and economic values and technical and scientific knowledge of the 21 key species.

A local community-based and driven intervention will be implemented, with support from local stakeholders, for the conservation of the 21 targeted species in the project sites. Key species conservation by community participation, whose livelihoods should be supported, will be enriched by the project.

The process of decision-making starting from local communities for conservation actions will be enhanced and disseminated to all actors for the sustainable management of biodiversity at different levels.

The incremental value of the project is captured in the table below:

GEF alternative: Table 5

<table>
<tr><th colspan="2">Baseline scenario</th><th colspan="2">GEF alternative</th></tr>
<tr><th>Baseline investments</th><th>Gaps</th><th colspan="2">GEF increment</th></tr>
<tr><td colspan="4">COMPONENT 1: Development of a participative approach based on the species for the conservation and the sustainable use of the biodiversity</td></tr>
<tr><td rowspan="3">Significant levels of commitment to conservation, shown by an extensive protected area network covering >10% of the national territory, with a predominant focus on ecosystem-based approaches; action plans and conservation strategies have</td><td>Inadequate focus on species-based approaches</td><td rowspan="3">Mainstreaming of biodiversity conservation in environment forestry sector: conservation status of the target species are incorporated into PA and forest management plan

Broadening of the scope</td><td rowspan="3">GEF:$600,000
Co-financing: $4,426,689
Total project funding:$5,026,689</td></tr>
<tr><td>Inadequate knowledge of characteristics and management options of the target species</td></tr>
<tr><td>Lack of an formal</td></tr>
</table>

been generated for a number of other species/groups. Significant levels of academic research on a number of key taxa, and well-developed local knowledge. **Baseline: $4,426,689**	framework for the implementation of participatory species-based approaches	of conservation approaches Promotion of an integrated approach to conservation planning incorporating diverse social, economic, technical and scientific factors Application of species-based conservation initiatives to additional species of high global priority Formalization of regulatory provisions for species-based participatory conservation	
COMPONENT 2: Local strategy implementation by concrete conservation actions of the target species			
A number of experiences of community participation and sustainable livelihoods. In all natural resource management processes, right-of-use is provided for in regulation and management instruments. Management of natural resources has been transferred from the public administration to local communities. **Baseline: $8,005,051**	Inadequate knowledge among local stakeholders on how to put the species-based approach into effect Livelihood support strategies undermine and/or fail to motivate conservation of the target species	Endanger species (ardeola) habitat conservation Broadening/ development of knowledge and capacity among local stakeholders for the application of the species-based approach Generation of additional experiences and capacities for the application of innovative species-based participatory conservation strategies with a livelihoods' focus	GEF:$4,000,000 Co-financing: $8,005,051 Total project funding:$12,005,051
COMPONENT 3 : Capitalization, dissemination and sustainability of the project achievements at national, regional and international scales			
Decision-making on conservation is locally-focused and based largely on	Inadequate mechanisms for sustaining and	Creation of conditions for sustainability and replication of the species-	GEF:$780,000 Co-financing: $3,089,440

national experiences. **Baseline: $3,089,440**	scaling up Innovative conservation initiatives	based approach Adoption of legal documents related to species conservation	Total project funding:$3,869,440
	Inadequate knowledge among decision makers at different levels regarding the importance of a species-focused approach to conservation		

In Madagascar, the common Biodiversity conservation approaches are particularly based on protected area creation, aimed at protecting delimited ecosystems. This approach could have success based on area indicators, but not in terms of species numbers or diversity. For that, it is necessary that specific actions should be oriented to key species. The project will therefore be working in PA to mainstream biodiversity conservation in environment/forestry sector by promoting conservation status of the target species which will be incorporated into PA and forest management plans. In addition to the mainstreaming of biodiversity conservation in Management Plans, the project will conduct other activities whicjh will contribute to the effective management of PA. These activities will include:

- Set up and organize local structure, ie local association in surveillance committees;

- Train and equip the committees for control and surveillance;

- Run program of sensitization and, environmental education;

- Carry out ecological monitoring;

- Conduct bio-ecological research studies;

- Habitat restoration (reforestation);

- Installation of fire breaks;

- Develop and implement income generating activities related to PA and Species conservation for local people;

The sustainable use approach also receives limited attention because of a focus on strict ‘preservation’ approaches. Biodiversity conservation strategies implemented until now are essentially designed at the central level and applied locally. This is a handicap as buy-in by local communities is limited due to misunderstandings and insufficient consideration of their needs. By promoting sustainable use and

valorisation of the targeted species, the profile of local communities involvement in PA management will be raised which in turn will contribute to PA protection.

The Project will base its logic on the search for solutions to these different problems, in order to bring added values to biodiversity conservation at national and global levels. The project will at the same time complement and strengthen current conservation practices, including the management actions of protected areas, with the aim of demonstrating how the species-based approach can effectively complement the ecosystem based approach.

The target key species are endemic, threatened and have economic value, and their conservation will go hand in hand with sustainable use. It is through the promotion of community forestry that the increases in awareness among the local population of the social and economic values of biodiversity will be ensured. In addition, the bailout of the key species gene pools through regeneration and reproduction will reinforce the sustainable use idea within the context of the sustainability of biodiversity resources. Therefore, actions will take place at a large geographical area through several sites for each targeted species in order to associate a large pool genetic from natural area in the conservation process.

Table 6: Sites of the project and anticipated intervention per site

Sites	Ecosystem type	Status / Year of creation	Area(ha)	Number of represented targeted species	Anticipated project interventions
Pointe à Larrée	Eastern littoral forest	New protected area / 2010	4,417	9 plant species	Management of natural regeneration and mother-trees – forest enrichment and restoration – introduction of tree species in peasants' agroforestry farms
Tampolo	Eastern littoral forest	New protected area / 2010	675	12 plant species	Management of natural regeneration and mother-trees – forest enrichment and restoration – introduction of tree species in peasants' agroforestry farms
Manombo	Eastern littoral forest	Protected area	15,000	7 plant species	Management of natural regeneration and mother-trees – forest enrichment and restoration – introduction of tree species in peasants' agroforestry farms

Mahabo Mananivo	Eastern littoral forest	New protected area Agnalazaha / 2010	2,418	7 plant species	Management of natural regeneration and mother-trees – forest enrichment and restoration – introduction of tree species in peasants' agroforestry farms
Betampona	Eastern forest at low and medium elevation	Integral National Reserve / 1927	2,228	12 plant species	Forest enrichment and restoration – introduction of tree species in peasants' agroforestry farms
Bekorakaka	Eastern forest at medium elevation	Part of the New protected area corridor Ankeniheny – Zahamena	1,400	11 plant species	Management of natural regeneration and mother-trees – forest enrichment and restoration – introduction of tree species in peasants' agroforestry farms
Ambongamarina	Eastern forest at low and medium elevation	Community forest / 2008	200	6 plant species	Forest enrichment and restoration – introduction of tree species in peasants' agroforestry farms
Tsiazompaniry	Eastern forest at low and medium elevation	Forest Administration Area	1,059 ha	4 plant species	Forest enrichment and restoration – introduction of tree species in peasants' agroforestry farms
Sandrandahy	Eastern forest at low and medium elevation	Community forest	40	2 plant species	Forest enrichment and restoration – introduction of tree species in peasants' agroforestry farms
Ranomafana	Eastern forest at low and medium elevation	National park	41,600	8 plant species	Management of natural regeneration and mother-trees – forest enrichment and restoration – introduction of tree species in peasants' agroforestry farms

Bemanevika	Northern humid zone	New protected area / 2010	36,515	*Ardeola idae*	Habitat restoration – Alternatives to chicken and eggs collect
Mahavavy Kikony	Western humid zone	New protected area / 2010	301,701	*Ardeola idae*	Habitat restoration – Alternatives to chicken and eggs collect
Ankarafantsika	Western humid zone	National park / 2002	130,026	*Ardeola idae*	Habitat restoration – Alternatives to chicken and eggs collect
Manambolomaty Tsimembo	Western humid zone	New protected area / 2010	62,745	*Ardeola idae*	Habitat restoration – Alternatives to chicken and eggs collect
Mandrozo	Western humid zone	New protected area / 2010	15,145	*Ardeola idae*	Habitat restoration – Alternatives to chicken and eggs collect
Ankevo	Western humid zone	New protected area Ambondrobe / 2010	7,049	*Ardeola idae*	Habitat restoration – Alternatives to chicken and eggs collect

A new contribution in the implementation of the United Nations Convention on Biological Diversity (UNCBD) will be brought by the project by improving the consideration of the species within the ecosystems. Currently, not only in Madagascar, but virtually worldwide, efforts toward ecosystem conservation have always been prioritized in biodiversity conservation.

The project will directly contribute to the Aichi Global Strategic Plan for the Biodiversity Convention on threatened species conservation (Target 12) and on genetic diversity protection (Target 13). The project will also bring its contribution in reaching the Aichi targets 1,2,5,7,11,14,16 and 20:

Target 1 - By 2020 at the latest, people are aware of the value of biodiversity and the steps they can take to conserve and use it sustainably.

The Project will contribute to local and national capacity building on biodiversity conservation, based on a system for the diffusion of information on species, to complement the ecosystem approach. This will result in awareness among key national development actors on the importance of species conservation and sustainable use.

Target 2 - By 2020, at the latest, biodiversity values have been integrated into national and local development and poverty reduction strategies and planning processes and are being incorporated into national accounting, as appropriate, and reporting systems.

The collection of all information concerning the key species conservation actions and the results of research on the key species (status, ecology, biology, socioeconomic and other values) will constitute a basis for the conservation strategies and the sustainable use of the species.

The inclusion of the species conservation in national policies, strategies, programs, action plans and regulations in Madagascar enhance the new frameworks of the biodiversity management.

Target 5 - By 2020, the rate of all natural habitat degradation, including forests, is at least halved and where feasible brought close to zero, and degradation and fragmentation are significantly reduced.

Artificial regeneration in order to enrich and restore forests and the assistance to natural species regeneration outside protected areas will contribute to the reduction of the degradation of natural habitat, and the conservation of *Ardeola idae* habitats through the research of alternatives.

Target 7 - By 2020, areas under agriculture, aquaculture and forestry are managed sustainably, ensuring conservation of biodiversity

The project will support the sustainable management of agricultural areas through the promotion of agroforestry systems, involving the management of endemic species in farmers' fields.

Target 11 - By 2020, at least 17 per cent of terrestrial zones and inland water, and 10 per cent of marine and coastal areas, especially areas of particular importance for biodiversity and ecosystem services, are conserved through effectively and equitably managed, ecologically representative and well connected systems of protected areas and other effective area-based conservation measures, and integrated into the wider landscape and seascapes.

The conservation of plant species in coastal forests of the eastern Madagascar is related to the protection, the management and the development of the marine and coastal zones were 3 protected areas are included in the targeted project sites.

Target 12 - By 2020, the extinction of known threatened species has been prevented and their conservation status, particularly of those most in decline, has been improved and sustained.

The principal focus of the project will be on improving the conservation status of 21 threatened target species.

Target 13 - By 2020, the genetic diversity of cultivated plants and farmed and domesticated animals and of wild relatives, including other socio-economically as well as culturally valuable species, is maintained, and strategies have been developed and implemented for minimizing genetic erosion and safeguarding their genetic diversity.

The increase in key species (socio-economically valuable) density maintains and improves the genetic diversity of the flora and fauna.

Target 20 - By 2020, at the latest, the mobilization of financial resources for effectively implementing the Strategic Plan for Biodiversity 2011-2020 from all sources and in accordance with the consolidated and agreed process in the Strategy for Resource Mobilization should increase substantially from the current levels.

By its end, the project will have resulted in the mobilization of additional funding for species conservation as a result of the mainstreaming of actions in policies, strategies and action plans at different levels (local, national and global). New project for other key species conservation would be developed and implemented.

By providing the plant species conservation in the littoral eastern forests of Madagascar, the project will contribute to the implementation of the **Nairobi Convention** on the protection, the management and the valorization of marine habitats and coastal zones of the Oriental African region.

With the implementation of the **World Heritage Protection Convention**, (UNESCO program), the eastern forest of Madagascar is listed as an ecosystem deserving a specific management for the maintenance of the

global value of biodiversity. The project will contribute to the objectives of this convention given that the low and middle altitude eastern forests host the target plant species.

The project will contribute to the implementation of the **global plan of action for the conservation, sustainable use and development of forest genetic resources (FAO, 2014)**. The contribution of Madagascar in the elaboration of the state of world' forest genetic resources, through the national report 2012, indicated the necessity to build stakeholder capacities, in particular those of local communities for the conservation of genetic resources, so that the conservation of threatened species would in particular be recognized as a shared responsibility. The participative approach developed by the project will apply this recommendation.

The project will also contribute to the **Ramsar Convention** objectives in relation with internationally important humid zones. Actually, some of the project's sites for *Ardeola idae* conservation are Ramsar sites.

Finally, the conservation of this migratory bird in the project list of the target species will contribute to the implementation of the **Convention on the Migratory Wild Fauna Species (CMS)** Conservation on the agreement related to the Aquatic African and Eurasian (Aewa) Bird Conservation under the direction of the UNDP. Lakes are the habitats of this species.

Madagascar, the common Biodiversity conservation approaches are particularly based on protected area creation, aimed at protecting delimited ecosystems. This approach could have success based on area indicators, but not in terms of species numbers or diversity. For that, it is necessary that specific actions should be oriented to key species.

The sustainable use approach also receives limited attention because of a focus on strict approaches to conservation. Biodiversity conservation strategies implemented until now are essentially designed at the central level and applied locally. This is a handicap as buy-in by local communities is limited due to misunderstandings and insufficient consideration of their needs.

The Project Strategic Results Framework is appended in ANNEX A of the GEF CEO ER.

Global Environmental Benefits: Madagascar is among the 10 hot spots in global biodiversity, with a high concentration of endemic species. The Malagasy biodiversity represents 5% of the world's biodiversity. Genetic diversity at inter- and intra-specific levels and the high level of endemicity constitute a huge capital for research. The "World Conservation Strategy" lists Madagascar as one priority zone for genetic resource conservation (Mittermeir, 1992 in Kull, 1996).

The GEF/UNEP Project, which will focus its actions on key species, is globally important as it will allow bringing new strategies in the sustainable conservation and utilization of the biodiversity. Most of selected key species are threatened and included in the red list of IUCN; in addition, some species are included in CITES appendix II.

The targeted species are distributed as following:

- 1 Critically endangered (CR) species
- 7 Endangered (EN) species and 3 of them in CITES Appendix 2;
- 8 Vulnerable (VU) species and 4 of them in CITES Appendix 2;
- 5 species with Data Deficient but known as overexploited.

The project will therefore directly assist in the conservation of these species and through the implementation of the species conservation strategies also contribute to the increase in management effectiveness of 12 protected areas in which the species are found.

Table 7: Changes from the PIF to CEO endorsement with Justification

Project objective, components, outcomes, outputs	At PIF stage	A t CEO	Justification for changes
Objective	Key Threatened, Endemic and Valuable Flora and Fauna Species are Conserved and Sustainably Utilized in the Local Socio-Economy	To develop, implement, and disseminate local strategies for the conservation and sustainable use of 20 globally significant flora and one globally significant fauna species	In accordance with the STAP recommendations bellow, the project objective has been reworded. STAP Comment: "The project objective could be reworded to make it more consistent with the title and to highlight the global significance of the species being targeted. It could perhaps also be made more specific since 20 of the 21 targeted species are tree species found in humid forest ecosystems in eastern Madagascar"
Component 1	Developing a participatory, species-based approach to biodiversity conservation	Development and implementation of a participative species-based approach on the conservation and sustainable use of biodiversity	In accordance with the STAP recommendations (bellow), the project framework (Components, outcomes and Outputs) have been reformulated in order to improve their logical structure and correspond with methodological best practice, without however implying a significant modification of the approach or deliverables of the project. STAP remark mentioned 'It appears that some project elements, or at least how they are presented, may require some reconsideration. For example, Component 1, developing a participatory species-based approach to conserve biodiversity, really represents a process to achieve an end or outcome. Perhaps the component really ought to be reworded to something along the lines of strengthening a
Outcomes	1.1 National and local commitment to conserving 21 key species of global and national significance	1.1. Biodiversity conservation based on species approach is known by all stakeholders	
		1.2. Social and economic values, technical and scientific knowledge on the 21 key species are available	
		1.3. A local collective agreement is implemented with support from local stakeholders for conservation of the 21 targeted species in the project intervention sites	

			species-based approach to conservation (and its integration with the dominant ecosystem based approach).'
Outputs	1.1.1 A review of lessons learnt from across the southern Africa region and other parts of the world on species-based approaches as complementary of ecosystem based approach to biodiversity conservation.		In response to the STAP remarks the output has been reworded without implying a significant modification of the approach or deliverables of the project
	1.1.2 Thorough biological, physical and ecological understanding of the 21 species of global including ecosystem conservation and national significance to be conserved (the 20 selected under 1.1.2 and the Madagascar Pond Heron).	1.2.1. A Research plan on biological, physical, and ecological aspects of the 21 target species to support their conservation actions	
	1.1.3 Thorough economic analysis and value chain analysis of the services and products derived from the 21 species of global and national significance.	1.2.2. A completed sector-based economic analysis of the services and derived products of the 21 global and national significant species	
	1.1.4 Species Conservation Strategy (including community forestry) as contribution to ecosystem management for each of the 21 species	1.3.1. Conservation strategies of the species to complement ecosystem management (prepared in a participatory manner with the involvement of the local	

	(prepared in a participatory manner with involvement from representatives of local communities).	community representatives)	
	1.1.5 Awareness raised of key national stakeholders	1.1.1. Awareness-raising programme for different actors (local communities, technical agents, local authorities) in support of the conservation of important species	In accordance with the recommendations of STAP. The components, outcomes and outputs in the results framework have been reformulated in order to improve their logical structure and correspond with methodological best practice, without however implying a significant modification of the approach or deliverables of the project. Also in order to adjust to the related indicators.
		1.3.2. Technical and administrative tools for the implementation of the collective agreements	
	.	1.3.3. Model of collective agreement for species conservation strategies	
Component 2	Conserving 21 key species of global and national significance	Local strategy implementation using concrete actions to conserve target species	The component has been reworded to consider STAP guidance mentioned above. The STAP remark mentioned also 'It appears that some project elements, or at least how they are presented, may require some reconsideration.
Outcome	2.1 The conservation status of 20 tree species of global and national significance as part of the humid forests ecosystem of eastern Madagascar flora is improved.	2.1. Enabling conditions created for the participation of local people in the conservation of the key species 2.2. Improved livelihoods of local communities resulting from their support to conservation actions	The outcome formulation was reviewed to drop the segregation between the flora and fauna species as the objective is that same and introduce enabling condition for the conservation of these species which is community participation
Outcome	2.2. The conservation status of the Madagascar pond heron (*Aredola idae*)		

	is improved**.**		
Outputs	2.1.1. At eight sites, local government technical services and decision-makers trained in conserving important species as part of the entire ecosystem.	2.1.1 Management contracts transferred to local communities for better implementation	To consider STAP recommendations, the project framework (components, outcomes and outputs) were reformulated in order to improve the logical structure and correspond with methodological best practice, without however causing a significant modification of the approach or deliverables of the project.
	2.1.2. At eight sites, participatory conservation agreements established with local authorities and representatives of local communities.	2.1.2 Effective involvement of all stakeholders in the project sites for target species conservation	
	2.1.3. Sustainable, locally-based seed-banks and nurseries capable of cultivating the 20 targeted species.		
	2.1.4. Participatory monitoring and evaluation system covering the 20 targeted species and measuring levels of illegal harvesting and contribution to the entire ecosystem conservation.	2.2.1. Economic incentives/conservation-friendly alternative livelihood models	
	2.1.5. 240,000 seedlings successfully planted in natural forests as a contribution to the entire ecosystem restoration and species conservation.		In line with the review of the framework as recommended by the STAP, these outputs are now considered as activities to achieve the above outputs
	2.1.6. 56,000 seedlings successfully planted in home gardens and at		

	village agro-forestry sites.		
	2.1.7. Sustainable harvesting tools (e.g. eco-labels, certificates, and conservation friendly marketing plans) for products derived from the 20 tree species		
	2.2.1 At eight priority sites crucial to the conservation of *Aredola idea and its habitat*, staff in the local government technical services are trained in the management and conservation of *Aredola idea and its habitat.*		
	2.2.2 At eight priority sites crucial to the conservation of *Aredola idea and its habitat*, a participatory monitoring and evaluation system is established		
	2.2.3. At the two most crucial sites for the conservation of *Aredola idae and its habitat* (most likely Bealanana and Manambolomaty), awareness is raised and attitudes to *Aredola idae* and its habitat are changed and its habitat are changed Positively		
	2.2.4. At the two most crucial sites for the		

	conservation of *Aredola idea and its habitat* , conservation agreements are developed and implemented. Through these agreements, the project will provide support to local development in exchange for habitat conservation actions.		
Component 3	Sustaining and replication to other key species	Capitalization, dissemination and sustainability of the project achievements at national, regional and international scales	In response to the STAP remarks, the component has been reworded in order to relate it to the targeted indicators. This rewording has not caused significant modification of the approach and project deliverables
Outcome	The *species* approach becomes a pillar of conservation strategies in Madagascar, complementing existing ecosystem-based approaches.	3.1. New information related to species-approach in Biodiversity conservation is shared and disseminated to conservation decision-makers	The outcome and outputs have been reviewed to consider STAP recommendations on the project framework (components, outcomes and outputs) in order to improve the logical structure and correspond with methodological best practice, without however causing a significant modification of the approach or deliverables of the project.
		3.2. The importance of species conservation is recognized by the Biodiversity sustainable management at different levels	
Outputs	3.1.1. Lessons captured on how to conserve species as complementary action to ecosystem conservation in multi-media format – including videos, manuals, guidelines, maps, etc – to be used as knowledge products.	3.1.1. Project Database set up and managed by the MEEMF Information System Department as part of knowledge management and recorded in other databases	

	3.1.2. Government and non-governmental actors are lobbied to channel funds towards conservation of key species as complementary action to ecosystem conservation.	3.1.2. Regional (Africa) networks established allowing to capitalize and exchange information on *Ardeola idae*	
	3.1.3 The national strategies for the conservation of key forest species and their ecosystem and for the conservation of *Aredola idae and its habitats* are being implemented.	3.1.3. Different tools and methods developed to disseminate the application of the collective agreements on key species conservation approach	
	3.1.4. Conservation Strategies of species of global and national significance prepared and approved in complementary to ecosystem conservation, and relevant resource mobilization supported.	3.2.1. Species conservation approach included in reference documents and funding programs related to Biodiversity	
Other Changes (OC)	PIF	CEO ER	**Justification**
OC 1		Logframe : The number of outcomes has increased from 3 to 7…outcomes should normally be reserved for quite high level programming results…	As indicated above the increase was as result of STAP comments. However, project partners (EA and Task Manager agreed with the suggestion to review the logframe at inception)

OC 2		Logframe :	Component 1 now corrected to read the same as in logframe. Outputs formulation in CEO ER and logframe are now harmonized
OC 3		Logframe :	In response to the CEO recommendation, Gender indicators added in the logframe
Risks		Risk 8 added	Due to the migratory nature of ardeola species, it conservation measures if not consider in other visited countries, is a risk to consider

A.6 Risks, including climate change, potential social and environmental risks that might prevent the project objectives from being achieved, and measures that address these risks:

Table 8: Risk Table

Risk Description	Level	Proposed Measure
1. Climate change and variability (notably increased cyclones) damages critical sites. Intense storms may damage sites and critically damage populations of flora species.	Medium	A range of geographically dispersed sites were selected, and, although some may be damaged, most will not. The large number of sites will increase lessons learning. The Project will also consider resilience to climate change in the selection of conservation strategies. The project will include vulnerability assessment and analysis of the targeted species face to the climate change, elaborate and recommend for the adaptation measures and the species resilience improvement, hence the management plans.
2. Local poverty undermines conservation efforts. The project seeks participatory methods, however, if local populations are extremely poor, balancing conservation with sustainable use may be a challenge.	Low - Medium	Great efforts will be made for each species and each site to develop participatory methods and to identify win-win (including economic benefits for local communities) approaches. Based on previous experience, at the local level, win-win solutions can be found over the short-term. The project strategy will be to develop mechanisms that replicate and sustain these solutions.
3. Political instability undermines project implementation. Current political instability makes it difficult to secure long-term commitment and to develop institutional	Low – medium	Political situation is currently calm and is likely to improve in near future. The project strategy is designed to circumvent

capacity.		political instabilities, and to work with partners (governmental, local and non-governmental) that are sure to continue to be involved in species conservation over the long term. Based on past experience, most actors remain committed and involved in biodiversity conservation, even though quite strong political changes.
4. Illiteracy of the populations	Low	The participative approach adopted by the project will include gender aspects by involving women, young and old persons, infants and men. Implication of such different categories would increase chance to work with persons having capacity to read and write and/or receiving training with appropriate dissemination materials. Also, effective involvement of local population should not be interfered with by the illiteracy of the population.
5. Baseline information on conservation status of targeted species is so low that it does not provide a basis for conservation. Data on many targeted species is currently lacking and if, following data collection, the conservation status is found to be too threatened, this project may not have the means (or the time) to save the species.	Low	The Project has an extremely focused conservation approach to species conservation, and should be able to conserve even the greatly threatened species. However, if a selected species is considered just too threatened, it will be replaced with another species i.e., those species which are under an unmanageable threat will not be selected.
6. Insufficient commitment and capacity of the administration to support project activities or long term sustainability	Medium	The awareness raising activities and the Local agreements planned in the project activities will help to overcome this risk,
7. Potential Risk of introducing new species (e.g legume) in pilot sites	Medium	Appropriate measures including impact assessment if necessary, will be consider to avoid risk of invasion
8. No conservation measures for Ardeola in other migratory African countries (Kenya, Tanzania, Mozambique and Central Africa Republic). *Ardeola idae* is an endemic species to Madagascar which migrate only within African countries particular Kenya, Mozambique, Tanzania and Central Africa Republic.	Low	Kenya, Mozambique, Tanzania and Central Africa Republic, have already ongoing programme for Ardeola conservation. Madagascar is therefore the only country lagging behind. The project will ensure that Madagascar is engaged in the African network under AIEA action plan and exchange visits will be conducted to learn from other countries experiences.

A.7. Coordination with other relevant GEF financed initiatives

Table 9: Coordination with other initiatives

INITIATIVES / INTERVENTIONS	HOW COLLABORATION WITH THE PROJECT WILL BE ENSURED
NBSAP revision	NBSAP revision conducted by the Ministry of Environment, Ecology, Sea and Forest is funded by GEF and implemented by UNEP. The participatory approach to establish the document offers an opportunity to enhance consideration of species and genetic resources conservation.
Strengthening the Network of "New Protected Areas" in Madagascar, notably New Protected Areas with Mangrove Ecosystems	This project by the Ministry of Environment, Ecology, Sea and Forest is in its PPG phase and is supported by GEF and implemented by UNEP. Two of its sites are common of the conservation of key species project: Pointe à Larrée and Bemanevika.
Mahavavy-Kinkony PA	Mahavavy Kinkony PA managed by ASITY NGO is in MRPA network financed by GEF and implemented by UNDP. The site will be an integral part of the proposed project.
Protected areas management with the involvement of local communities by Missouri Botanical Garden programs.	MBG is an active partner in the project and has helped in the baseline analyses for all project intervention sites during the PPG. MBG will be an active partner in two sites including protected areas: Pointe à Larrée (in the northeastern area) and Mahabo Mananivo (in the southeastern area).
Protected area in Anjozorobe Angavo managed by FANAMBY NGO	Anjozorobe Angavo PA managed by FANAMBY NGO is in MRPA network financed by GEF/UNDP. One of the project sites (named Ambongamarina) neighbors this PA and will develop collaborative practices as in sustainable tourism and marketing of certified products such as species and essential oils.
Conservation and management of threatened Biodiversity in Madagascar with a Focus on the Atsimo-Andrefana Spiny and Dry Forest Landscape	This project of the Ministry of Environment, Ecology, Sea and Forest is in its PPG phase and is supported by GEF/UNDP. Forest landscape management by community approach experience will be exchanged and developed through this project and the Project on "species conservation".
"Eastern forest" world heritage management	UNESCO has a large program on eastern forest world heritage management. The project on "key species conservation "should develop collaboration with this program as habitats of targeted species are in this ecological region. Also, the program is developing capacity building to managers of Ranomana National Park which is included in the project sites.
Littoral forest restoration project	Littoral forest restoration project is in development with Rio Tinto QMM, a mining private company in the very south-eastern part of Madagascar. The company is engaged to co-finance activities in Mahabo Mananivo (site included in Agnalazaha protected area managed by MBG). The project will help to solve technical constraints towards littoral forest restoration leading to and informing other projects.

B. ADDITIONAL INFORMATION NOT ADDRESSED AT PIF STAGE:

B.1 Describe how the stakeholders will be engaged in project implementation

TABLE 10: STAKEHOLDERS

Skateholders	Role in the project
"Silo National des Graines Forestières" (SNGF)	SNGF is a public organism under the tutorship of the Ministry. As a national reference for forest genetic resources management, the SNGF will support implementation of the project on plants species conservation, particularly in technical conception and scientific research.
Regional Directions of the Ministry of Environment, Ecology and Forests (DREEMFs)	The regional directions of the Ministry are the implementation unit relays of the Project at local level. Thus, the directors and their collaborators (Forestry regional service chiefs, Forest cantonment chiefs) are the local interlocutors of the technical partners at the intervention sites. The business plans and the technical reports from the partners must be validated by the DREEMFs. The Project activities will be integral parts of the DREEMF annual programs for the project implementation period and even beyond in order to sustain the achievements on the key species conservation and ensure the maintenance of local good practices. The DREEMFs organize local meetings once a year for sharing, consultation, and planning of activities in collaboration with the Project implementation unit and conduct monitoring of the safeguard implementation plan of actions.
Direction of Biodiversity and Land Protected Areas	This department will collaborate in the monitoring and evaluation process with reference to national policy and strategy. For that, the responsible parties will participate in the Steering committee to give regular orientation and recommendation to the Project Management Unit. The national focal point for CDB and for CMS working at this department will assist in the project implementation
.Direction of Planning, Monitoring and Evaluation	This is the formal unit representing the Ministry in the monitoring and evaluation of the project implementation.
The Peregrine Funds - TPF	The TPF is a technical partner NGO already based at the project intervention sites. Hence, TPF will contribute provide cofinacing The TPF is in charge of: - the implementation of specification documents in

	the agreement protocol signed with the project Implementation unit; - the annual business plan and budget preparations per site for endorsement by the Implementation unit - coaching of local communities; and - financial and technical reporting of their activities to the Implementation unit.
Information System Department (ISD) .	The ISD is in charge of the project data base management within the information management. The information regularly provided by the implementation unit on the species and the sites will be handled by the ISD to provide input for the data base, an essential tool in the elaboration of national reports on biodiversity. Therefore a link with the Minister's web site is under consideration to share information on the Project with the public
Local technical partners - Water and Forest Department of the Agronomy graduate School at the University of Antananarivo; PBZT , Madagascar National Parks, MBG, Durrell, MFG, AVERTEM, KMCC, WHH; Asity Madagascar, Civil society such as Tsarafara Association; and Private sector such as Private Tsarasaotra Park (Ramsar site in the city of Antananarivo).	These partners are in charge of: - the implementation of specification documents in the agreement protocol signed with the project Implementation unit; - the annual business plan and budget preparations per site for endorsement by the Implementation unit - coaching of local communities; and - financial and technical reporting of their activities to the Implementation unit.
Local communities: A population of 4 villages per site (a total of 64 villages for the 16 sites).	The local communities of the identified villages will be involved in the strategies and action plan implementation of the conservation of the 21 species. They will contribute at different steps and components of the project in order to ensure that their needs and constraints are taken into account in the entire process. Various people from target villages will be involved as paid labour in the project. Local Communities will also, be involved in work plan implementation and reporting to local technical partners according to a jointly pre-established agreement and support from local technical partners. The Local communities will be benefit from economic incentives which will mitigate negative impacts of the project implementation to their way of life.

Cofinaning partners: Liz Clairbone and Art Ortenberg Foundation Tany Meva Foundation Royal Botanical Gardens - Kew QIT Madagascar Minerals SA UNESCO	The organization are not active at site level, however directly provide cash cofinancing through their partners on the ground already describe above as technical partners.

These technical partners will be implementing the project under sub-contract. The sub-contract is corresponding to the major part of the total budget: USD 3,764,985 (70 % of the GEF grant budget) because it will support the main actions for key species conservation which will be implemented by local technical partners who will have Subvention contract or Funding convention or Funding agreement??? with the Project implementation Unit. Budget for promotion of economic and incentives plan for species conservation actions is included in the sub-contracts.

B.2 Describe the socioeconomic benefits to be delivered by the Project at the national and local levels, including consideration of gender dimensions, and how these will support the achievement of global environment benefits (GEF Trust Fund/NPIF) or adaptation benefits (LDCF/SCCF):

The project will deliver socioeconomic benefits which are identified from survey results related to populations livelihoods linked to key species (each targeted species is known to have economic value and to be used by the local population) and other natural resources. Deep analysis of the survey findings will be presented by consultants as an output to complete the baselines at Year 1 of the project. Based on local community requests and needs the project will support new activities to improve their livelihoods.

An agreed common strategy from a participatory approach will be implemented on a benefit sharing mechanism with regard to sustainable use of key species products at local level running parallel with conservation processes.

The project design combines species conservation with support to local population's livelihoods by incorporating a social safeguard plan. Towards that, different measures such as development of new income generating activities, small projects on basic infrastructure (e.g. schools or health facilities), alternatives to forests / humid zones (habitats of the 21 key species). These measures will focus on reducing negative impacts of the project to the local population.

Agroforestry which will also be supported by the project in terms of key species domestication in conservation, will also give new opportunities to farmers, for whom, production should be increased and diversified. The project will support the local communities to look for market opportunities of local production.

While a comprehensive gender analysis will be conducted in different project sites to come up with concreate gender equality in project activities with clearly define indicators, the current project design considers the gender aspect with regard to natural resources and environmental management. Women play an important role as both consumers and producers. For example, women source for firewood in order to provide for their families' daily 'needs. Women groups will be specifically consulted in the project implementation as they may have particular concerns in natural resources degradation and biodiversity loss in Madagascar. Their traditional knowledge on key targeted species will be very important in the conservation process. Women will be the primary designers and beneficiaries of social and economic incentives as they are more involved in their households' livelihoods, in the rural areas of the country. For example, a creation of women association to build a small micro-projects, to promote community agriculture to have enough food and for income generating. Furthermore, as this project includes many nursery and seedlings establishment activities, women will be particularly use as labor force as this type of activities requires caring and patience recognize in

women group. Already existing SNGF (executing partners) nurseries employed women who represent more than 75% of the people working in the nurseries particularly on temporary basis. This activity could be practiced permanently by some group of local community in the future. Youths will be involved in the project to allow them to learn and benefit from conservation-friendly livelihood support options.
From The Peregrine Fund's assistance and training, this project will also create a new itinerary for tourist attraction cantered on endangered species (*Ardeola idae*) in the wild (bird watching group). From this activity, a local community will have income resource (guide fees, food and lodges supply).
The project will support the achievement of global environment benefits as it considers the importance of endemic species which are unique in the world. Genetic diversity at intra-specific levels will be effectively apreciated at different sites of natural range for each targeted species. The project will bring new strategies in the sustainable conservation and utilization of biodiversity to enhance large previous and current experiences focused on ecosystems. For that, targeting threatened species, included in the IUCN red list and some others in CITES appendix II will permit the project to contribute towards the achievement of global Biodiversity management.

B.3. Explain how cost-effectiveness is reflected in the project design:

Cost Effectiveness will be used to evaluate the performance of key species conservation with regard to biodiversity preservation in an ecosystem.

Ecosystem conservation does not necessarily ensure species conservation. In addition, species conservation which includes forest restoration and enrichment will improve a habitat. Conservation at species level should be more practical, tangible and easier than ecosystems which are more complex within a great number of interdependent biological elements. With regard to protected areas (this project will cover 7), the project will be implemented inside and outside of the protected areas for key species conservation. The project will also partially cover two complementary scopes of biodiversity conservation: species and ecosystem levels. This aspect will be enhanced by adopting effective participation of local communities instead of access denial which would incur heavier costs for permanent control.

This way, key species will be conserved at the different sites of their natural range. This will guarantee better conservation of genepool guarding against species extinction. In fact, biodiversity conservation is usually practiced in delimited site without considering species genetic diversity through natural distribution. With conservation planned for selected sites within specific biodiversity richness, best practices during past and current actions and easy access are factors of cost effectiveness. Conservation of key threatened target species with economic and ecological values also has an impact on biodiversity safeguard and sustainable use through the project sites.

In the project outputs, it is expected that the status of key conserved species should be improved by restoring their populations and increasing their abundance. In this aspect, actions are focused on forest restoration and enrichment, agroforestry and home gardens systems for plant species and reducing collection of eggs and chicks to ensure new generations for *Ardeola idae*. As a complementary measure, to reduce threats and pressures to key species and their habitats, actions to promote economic incentives are an important factor to consider. Impacts of cost effectiveness should be livelihoods improvement of local communities leading to reduction of their dependence on natural resources, key species and their habitats.

Ordinarily, biodiversity conservation efforts are not sufficiently based on scientific knowledge and thus tend to be weakly effective. This GEF/UNEP project, which includes background research will generate short term benefits by immediate use of information to key species conservation. Apart from scientific area, social, economic, technical and legal approaches, will enhance cost effectiveness of the project in manner of mainstreaming system as conservation project may consider and combine several sectors to correct some practices based on conservation by conservation.

B.4. Innovativeness, sustainability and potential for scaling-up *[included to respond to STAP comment]*

Innovation: As indicated in the PIF**,** the project is innovative as it is the first large-scale, nationally driven initiative to develop a 'species-based approach' in Madagascar where till now the conservation through PA creation is the widely used approach. Although national and international partners as indicated in the baseline above have focused on certain species, there has been no significant effort to develop a true species based approach to conservation in Madagascar. Moreover, this project sets out to develop the species-based approach as a complement to the eco-system approach, both nationally and at specific sites, and so the challenge of mainstreaming is innovative in Madagascar. This will deliver lessons that are useful both in Madagascar and in other countries. Finally, by conserving several high profile species, this project will help gain buy-in for long term efforts to conservation. Although it is known and accepted that the ecosystem-based approach will always be the predominant approach, there is a vast number of actors and partners supporting that approach, and this project has found a valid niche with the species based approach. Another innovative aspect is the combination of participatory and scientific methods to plan and implement activities. This will include an assessment of the economic value of ecosystem services through key species and linkage with community livelihoods, and the development of tools and methodology for monitoring of these services as part of ecosystem functions

Sustainability: The project design includes strategies and activities to ensure sustainability. These include awareness raising, information and training activities, followed directly by conservation operations at the site levels. These will retain the attention of actors, notably the local communities who will link conservation and livelihood option. The project activities will be embedded in the local development process both in the mid and long terms; therefore there is strong potential for sustainability. The project sites will be localized in land secured areas (protected forests, classified forests, RAMSAR sites) in order to avoid fundamental land tenure disputes with risk of compromising the sustainability of achievements. Because of the project, populations should gain monetary benefits from seed collection and plants nursery; they will also be motivated to preserve the basic harvesting materials (natural settlement) and to maintain in a suitable condition of their plants production infrastructure. Restoration activities will be an opportunity for the local communities to produce and sell seedlings thereby generating incomes. The strategy of developing and promoting economically viable alternative livelihood options from targeted species will provide sustainable incentives for reducing pressures and promotion of sustainable use of these species. System of "conservation through use" where the production of useful products by the target species will motivate their conservation by the local populations. Also, the promotion of social sustainability through the establishment of the collective conventions and the strengthening of existing community-level governance structures would be supported by the project. At the national level, conservation strategies for biodiversity developed, with the project within the species approach, will be included in the national program, policies and regulation in a way that their implementation could be shared and be sustainable. It also allows the mobilization of public, private funds and different financial partners to continue action beyond the project.

Replication: The project replication will be based on capitalization, evaluation and communication processes. The basic actions are linked with the implementation of the 1st and 3rd components of the project. The first component of the project will be "preparing the ground" for replication at national level through the creation of capacities and knowledge, and the development of a nationally-agreed model for species-based management. This will facilitate national replication, once combined with the generation and diffusion of project results through Component 3. In Component 3 of the project, the capitalization is to have some perspective to appreciate the quality of the undertaken actions. The data base that will be realized and managed by the Information System Department of MEEF is setting up the main form and completes the project capitalization. Other tools allow capitalizing information more specifically for their originality, their interest and their particular suitability regarding the target groups. The capitalization is the base of the project

replication actions new perspectives withdrawn from**.** The lessons learnt from good practice, different from one zone to another, throughout different sites, for each target species with specific partners. Those different scales of capitalization enable to identify the success factors of the project that can be considered in the replication, while keeping the same general principles of the initial project. The project assessment (at mid-term and at the end) can predate, follow or be integrally part of the capitalization. The assessment process is described in the Section 6. Like the capitalization, the assessment is contributing in the improvement of the actions quality, pertinence, effectiveness and efficiency. The assessment results are exploited in the project replication. Communication on the project: will disseminate information about the steps and participative approaches starting from the basic communities to the national decision-makers and the regional and international bodies involved in biodiversity conservation. The communication will be based on the capitalized information which will include the results of assessment and will carry on different aspects such as: the achievements, the constraints, the mistakes to avoid, the assets and the strengths to exploit and also the methods for taking into account essential local factors (ecology, socio-economic-cultural). From these three steps, the replication of the project can be geographical, i.e.to ensure the conservation of target species even in other natural range zones (inside or outside protected areas). For this, the intervention sites particularities of new projects have to be considered trough the exploitation of the recommended steps in communication documents. The replication could be also at institutional level, i.e.: other entities will be involved in new projects or as an extension of the GEF project, in order to exploit the communicated information, reinforce and expand the conservation actions in the sites. For that, target species can be the same, increased or changed. Getting the results on new financial mobilization in the 1st component would constitute a key factor in the project replication process. The local strategies that will be developed would be duplicated at a larger scale that is at the national, regional and global levels. In this way, these strategies can be applied on wider range of species in order to have significant impacts on the Biodiversity conservation. Thus, the national capacity to implement the species based approach would constitute a vital tool for the conservation of Biodiversity in Madagascar.

B.5. **Public awareness raising, communication and integration strategy**

As the project sites of intervention are wide, actors and stakeholders of the project are various, the effectiveness of the project is leaning on awareness raising, communication and integration. This chapter is related to Component 3 of the project.

The public awareness raising refers to the component 1 of the project, which consists in a development of participative approach, based on species for conservation and sustainable use of biodiversity. The public awareness raising targets different categories of stakeholders:

- the local communities
- the local authorities
- the local public technicians
- NGOs and local associations
- the private sectors operating in the intervention zones of the project
- the scientific community
- the central administration
- the political decision-makers
- the international community and financial partners.

Awareness raising of local communities: The primary action of the project component 1 consists in conducting consultations for the elaboration of biodiversity conservation strategies, based on species approach, especially beside the local communities. Initial contact and courtesy visit beside the local authorities (publics and traditional) and the opinion-leaders such as the religious chiefs, the presidents of

farmers organizations, the schools or health facilities directors are a preliminary to the meetings with the population depending on their typology before the general assembly. These personalities will be in charge of the convocation of the participants attending the different groups' meetings with regards to gender equity.

Emphasis on the importance of their involvement in the implementation of the project to conserve target species must be assured. For this, their knowledge about the species value, and their ecosystem will be required to collect information about the use, traditions and cultures, the needs and the constraints linked with resources. These information will be integrated in the objectives, the expected results and the project action presentations. Their self-interests at short, mid and long term on the project action, as well as their responsibilities and roles will be put forward.

Awareness raising of local public technicians: The officers in the branches of sectorial departments (Environment, Ecology and Forest; Agriculture, Livestock, Fishery, Mine) and the local and regional development public authorities have to be aware and responsible on importance of species conservation. The roles of these regional agents of technical departments are explained for their involvement in the project implementation and to ensure the integration of activities in their respective work programs. The exchange sessions with this category of actors should be oriented to the technical aspects to allow them to bring contributions to the project management and to assert their responsibilities. The linkage between species conservation and the development process led with the sovereign roles of these state agents can be the focal point of the awareness raising. Sessions of training addressed to these agents are scheduled by the component 1 of the project.

Awareness raising of NGOs and local associations: NGO and associations that conduct operations on biodiversity conservation and local socio-economic development will be targeted in the awareness raising actions. The project presentation should then bring an improvement or a reinforcement of their programs in the conservation domain and the sustainable use of biodiversity. A mechanism of means harmonization (humans, materials and financials) and the approach strategies with the partners will be commonly established and implemented. This complies with the spirit of the GEF-funded project, which aims to start from the baseline on current actions, by offering an opportunity to bring additional profits to the beneficiaries. The protected areas managers in the project zones of intervention should be privileged targets in the awareness raising actions so that the ways of taking species conservation into account is strengthened in their programs.

Awareness raising of the private sector: Sustainable use is associated with the species conservation in the project concept. This use involves private operators (woodmen, fishermen, miners, tourists, pharmaceutical sector…), to whom social and ecological responsibilities are required. The awareness raising addressed to these stakeholders must then lead to their consciousness raising about the sustainable exploitation not only for the target species but also for their respective ecosystems. Their terms of collaboration with local communities will be discussed and improved, so that there will not be any contradiction with the commitment taken by the populations in their appropriation of the project. The project would bring support to facilitate negotiations between local populations and the operators to sustain implementation of the strategy of conservation through use (generating income for communities, thereby motivating them to conserve the species). In this way, the project would contribute to mechanism of Access and Benefit Sharing, in order to ensure that the communities are adequately compensated for the use of "their" biodiversity.

Awareness raising beside the scientific community: The scientific community plays a preponderant role in the biodiversity conservation. Firstly, the researchers will be sought in research activities and the interdisciplinary studies in the component 1 of the project in order to complete the knowledge about the biophysical and socio-economical aspects related to the target species. Then, other domain that researcher can be entrust with will be the development of indicators of species conservation, to contribute in the project component 2, which includes the improvement of the status. Moreover, the acquired experience of the research has to be restored at all levels and translated to help decision making. At community level, research results are fed back to local population in simple and comprehensible manners to allow them understand value and utility of results and indicator. Finally, the scientific community will be sensitized about the necessity of communicating the acquired experiences throughout international publication, as planned in the component 3 of the project.

Awareness raising at the central administration level: With the executive leadership of the Ministry of Environment, Ecology and Forest, awareness raising and information dissemination about the project will be undertaken with other concerned ministerial departments such as the fishery, agriculture, livestock, mining and territory arrangement sectors. This will contribute to component 3 of the project: first by supporting the adoption process at the government level, of the legal texts for species conservation and by influencing the decision mobilization of public funds for species conservation. The same actions, emphasizing the benefits for the local communities on the project actions will be addressed to the parliament.

Awareness raising of financial partners: The mobilization of new funds directed towards the conservation of species, in addition to ecosystem protection actions is an expected result of the project component 3. This is how the financial partners of the Ministry of Environment, Ecology and Forests will be approached for awareness, on the needs to finance new projects on the conservation of target species in other zones in the country and/or the conservation of other, endemic, threatened and useful socio-economically useful key species.

Communication: Communication will be a crucial requirement for project success and the achievement of the objective. To do this, the project will comply with the National Information Strategy and the Environmental Communication (SNICEDD in French) for sustainable development (elaborated at the MEEF)**.** The SNICEDD is a framework plan aiming to change behavior, attitudes and practice (method of production and use) toward the environment for which the Biodiversity is the most important component. The strategy has a national and multi sectorial character, and includes the participation of the local communities. At the ministerial department level, (apart from the MEEF), the environmental units will play the role of interface with the Project National Directors, to ensure communication within the different partner sectors. At the local level, the local community animators will be trained to provide periodic communication on the project. The communication will be done with material supports such as public notice, posters, cartoons or stickers for the local populations.

For the other target groups, the communication can be media (articles in daily paper, radio and television broadcasting) and utilizes computer technologies like the creation of data base about the species, the ecosystems and the actions of conservation (The MEEF Direction of the information System has been working on it since the GPP phase). In a more comprehensive framework of the communication on the project, related presentations will be done at local, national and international events.

Integration into national context: The integration strategy of species conservation in national policies, strategies, programs and action plan on one hand, and the local practices on the other (in accordance with Target 2 of Aichi: integration of Biodiversity in plans, strategies and local and national accountings), should also contribute to Target 1 of Aichi, (from now to 2020, the individuals are aware of the Biodiversity importance and the actions that they can undertake to conserve it). The strategy aims at understanding the link between the conservation and the livelihoods of the populations. The project will consider five key priorities areas:

- Key priority area 1: adoption of accompaniment measures to the conservation of species
- Key priority area 2: awareness raising , information , education and capacity building
- Key priority area 3: promotion of systemic production actions (in forestry, agriculture, livestock, fishery) and conservation;
- Key priority area 4: support on the governance of the Biodiversity / species at different levels;
- Key priority area 5: mastering the key factors in species conservation.

Key priority area 1: The conservation must be accompanied by measures addressing socio-economic constraints of populations. For this, the strategy is based on the analysis of causes and determining factors, to combine the conservation of species with the maintenance of an acceptable level or the improvement of livelihoods.

Key priority area 2: The awareness raising and communication mentioned above, include the integration strategy. They should be regularly conducted to develop a forum of dialogue with the different stakeholders. The education and capacity building (in component 1 of the project) are the levers of the integration strategy, so that new knowledge can bring about changes in behaviors and in practice in favor of species conservation.

Key priority area 3: The conservation of species should be integrated in the productive sectors to encourage a mode of sustainable exploitation. The forest production is based on the species sheltered by the ecosystems of which some are in the stage of: over-exploitation, depletion and extinction threat. Most of the project forest target species are prone to these problems. In agriculture, the conservation of species will be best considered to reduce the pressure of slash and burn practices on the forests. The agricultural intensification is an alternative option to the extension of cultivated spaces at the expense of forests. This option will be developed by the project, in the protective measures recommended by the project. Consequently, the conservation of forest vegetation / the species upstream of agricultural field will permit to fight gainst soil erosion and the silting of rice field downstream. The project is planning in its component 2 to support local populations in agro-forestry development, by associating target species with food crops and livestock .This is a form of species conservation by domestication. In animal husbandry, the feeding of cattle by managing the pasture and forage plantation will be then considered by the project in the safeguard measure to preserve the target species of conservation. That should reduce extensive type of animal husbandry, with which the cattle are freely left in wild vegetation, including forests where target species can be affected by the trampling or the habitat destruction. The fishing method in lakes, the habitats of *Ardeola idea,* should be reviewed so that they cannot bring the destruction of aquatic vegetation.

Key priority area 4: The governance of biodiversity / or species has to be considered at different levels and be supported by regulations and policies for conservation and sustainable use. The elaboration of legal texts on

species conservation and local conventions are covered by the project. The conservation of biodiversity/ species will be part of roles and responsibilities, coming from the effective decentralization, attributing the adequate responsibilities and means at the local level. The integration of the species conservation particularly in forest will be promoted in local and regional development plans, to ensure the eco -systemic services they provide. The local and scientific knowledge will be considered as the basis of governance principles. The international cooperation and the implementation of conventions and global treatises (CBD, CITES, Ramsar Convention, Convention on Migratory species, etc…) are a lever in the Biodiversity / species governance. The project will drain supports for the improvement of the Malagasy proactivity, in the development of its cooperation aiming at the conservation of the species, which is somehow a relatively less vulgarized field.

Key priority area 5: The key factor of species conservation must be mastered. The role of research is essential in generating the needed knowledge to carry out conservation. The habitat restoration (forests, humid zones) is essential and is a key factor to successful species conservation. The win-win principles adopted by the stakeholders particularly by the local communities are important so that the actions of conservation are not harmful to their livelihoods. The project interventions in the sites surrounding protected areas need special attention to this principle in order to reinforce the appropriation of integrated process.

C. DESCRIBE THE BUDGETED M &E PLAN:

The monitoring and evaluation plan will follow UNEP standard process. It will, regularly, check indicators for each outcome and output according to milestones presented in the logical framework. Also, key deliverables and benchmarks will be checked during M&E process. Field visits, reporting and workshops are the main tools which will be used for M&E actions which aim to contribute to improved decision-making and management. Mid-term and final evaluation will be particularly developed and will involve all stakeholders at local and national levels. Objective indicators worded as project impacts will be evaluated at the project closure.

The M&E officer and the implementation unit will be responsible for reporting to the Project Steering Committee, the Ministry and UNEP.

Costed M&E plan

Type of M&E activity	Responsible parties	Indicative Budget (USD)			Time frame
		GEF TF	Co-financing	Total	
Inception workshop and reporting	-Project Implementation and Management Unit -MEEMF	26,000	-	26,000	Within 2 months of project inception.
Establishment of baseline values for GEF tracking tools including gender indicators	Technical local partners	-	15,000	15,000	GEF tracking tools indicators: start, mid and end of project
Development of participatory monitoring and evaluation tool for	-Project implementation and management Unit -Steering	24,000	15,000	39,000	Within 6 months of project start up

community groups including gender indicators	Committee - DREEFs -Technical local partners -Local communities				
Project Progress reports/ Annual Technical reports to UNEP	-Project implementation and management Units -Steering Committee	24,000	-	24,000	Progress reporting: quarterly Overall performance: annual
Project Implementation Review (PIR)	Steering Committee UNEP MEEMF	21,000	-	21,000	PIR – annual (overall performance)
Field monitoring visits to project sites	-Project implementation Unit -DREEFs -Technical local partners	21,000	-	21,000	Quarterly (basis for quarterly reporting)
Mid Term Review/Evaluation	-Project implementation and management Units -Steering Committee -UNEP -MEEMF -Local communities	40,083	3,500	43,583	At mid-point of project implementation
Terminal Evaluation	-Project implementation and management Units -Steering Committee -UNEP -MEEMF -Local communities	40,083	3,500	43,583	At the end of the project
Financial audits	Independent auditor	11,020	-	11,020	Annually /Terminal
Project closure workshop	-Project implementation and management Units -Steering Committee -UNEP -MEEMF -Technical local partners -Local communities	30,000	7,000	37,000	Within 6 months of end of project implementation
	Total	237,186	44,000	281,186	

PART III: APPROVAL/ENDORSEMENT BY GEF OPERATIONAL FOCAL POINT(S) AND GEF AGENCY(IES)

A. RECORD OF ENDORSEMENT OF GEF OPERATIONAL FOCAL POINT(S) ON BEHALF OF THE GOVERNMENT(S)

(Please attach the Operational Focal Point endorsement letter(s) with this form. For SGP, use this OFP endorsement letter).

NAME	POSITION	MINISTRY	DATE *(MM/dd/yyyy)*
Christine Edmée RALALAHARISOA	GEF National Operational Focal Point Director General of Environment	MINISTRY OF ENVIRONMENT, ECOLOGY, SEA AND FOREST	07/02/2013

B. GEF AGENCY (IES) CERTIFICATION

This request has been prepared in accordance with GEF/LDCF/SCCF/NPIF policies and procedures and meets the GEF/LDCF/SCCF/NPIF criteria for CEO endorsement/approval of project.

Agency Coordinator, Agency Name	Signature	Date *(Month, day, year)*	Project Contact Person	Telephone	Email Address
Brennan Van Dyke, Director, GEF Coordination Office UNEP		September 09, 2016	Adamou Bouhari Task Manager BD/LD &RFP	+254207623860	adamou.bouhari@unep.org

Annexes to CEO Endorsement Request are attached as separate files.

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Annex B: Response to GEFsec review comments

Annex B.2.: Responses to STAP comments

Annex C: Status of PPG implementation

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Annex M: Environmental and Social Safeguards Checklist

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Appendix 7: ToRs of key staff