



# PROJECT IDENTIFICATION FORM (PIF)<sup>1</sup>

PROJECT TYPE: Full-size Project

TYPE OF TRUST FUND: GEF Trust Fund

## PART I: PROJECT IDENTIFICATION

Project Title:	<b>Development of a national network of terrestrial and marine protected areas representative of the Comoros' unique natural heritage and co-managed with local village communities</b>		
Country(ies):	Comoros	GEF Project ID: <sup>2</sup>	t.b.d.
GEF Agency(ies):	UNDP	GEF Agency Project ID:	4950
Other Executing Partner(s):	Ministry of Production, Energy, Environment, Industry and Handicraft (MPEEIH)	Submission Date:	August 8, 2012
GEF Focal Area (s):	Biodiversity	Project Duration (Months)	60 months
Name of parent program (if applicable): For SFM/REDD+ [ ]	n/a	Agency Fee (\$):	424,600

## A. FOCAL AREA STRATEGY FRAMEWORK<sup>3</sup>:

Focal Area Objectives	Expected FA Outcomes	Expected FA Outputs	Trust Fund	Indicative Grant Amount (\$)	Indicative Co-financing (\$)
<b>BD 1:</b> Improve Sustainability of Protected Area Systems	1.1 Improved management of existing and new protected areas	New protected areas (7) and coverage (at least 38,145 ha of terrestrial areas + marine area t.b.d.) of unprotected ecosystems Sustainable financing plans (1)	GEFTF	4,051,527	18,905,000
Sub-Total			GEFTF	4,051,527	18,905,000
Project Management Cost <sup>4</sup>			GEFTF	194,473	1,080,000
<b>Total Project Cost</b>			GEFTF	<b>4,246,000</b>	<b>19,985,000</b>

## B. PROJECT FRAMEWORK

**Project Objective:** To establish an expanded and functional system of protected areas (PAs) in the Union of Comoros, representative of the country's biodiversity endowment and with good prospects for a sustainable future.

Project Component	Grant Type	Expected Outcomes	Expected Outputs	Trust Fund	Indicative Grant Amount (\$)	Indicative Cofinancing (\$)
1) PA system strengthened through expansion and capacity building	TA	<i>The Union of Comoros' PA system is expanded through the addition of varied terrestrial, coastal and marine ecosystems, reaching a coverage of 22% of the land surface and a marine area to be estimated, but larger than 42,000 ha<sup>5</sup>, a system that is both more sustainably financed and more effectively managed by a capacitated national PA institution and subsidiary PA agencies on each of the islands, leading to reduced threats to</i>	1.1) A new <b>legal framework</b> for the management of the PA system is approved (incl. review of existing related legislation, enacting of a PA law) and its <b>institutional structure</b> is formalized (mandate, attributions and basic organigram are legislated, and state budget allocations for its operations are secured); this structure includes the manning of key posts, with designated technical staff, and the deployment to sites of both site managers ( <i>conservateurs</i> ) and park wardens ( <i>éco-guards</i> ), the latter preferably recruited	GEFTF	1,051,527	4,735,000

<sup>1</sup> It is very important to consult the PIF preparation guidelines when completing this template.

<sup>2</sup> Project ID number will be assigned by GEFSEC.

<sup>3</sup> Refer to the reference attached on the [Focal Area Results Framework](#) when filling up the table in item A.

<sup>4</sup> GEF will finance management cost that is solely linked to GEF financing of the project. PMC should be charged proportionately to focal areas based on focal area project grant amount.

<sup>5</sup> These estimations depart from a baseline of a single gazetted MPA (the Moheli Marine National Park) covering 40,400 ha of seascapes in the Southern part of Moheli Island. The park includes the Nioumachoua Islets, which corresponds to only 2% of the country's total land surface area. The numbers for the expanded PA estate remain preliminary, as the extent of several proposed new areas remain to be defined. Essential baseline studies to define these targets will be carried out during the PPG phase.

Project Component	Grant Type	Expected Outcomes	Expected Outputs	Trust Fund	Indicative Grant Amount (\$)	Indicative Cofinancing (\$)
		<p><i>globally significant habitats and species.</i> <i>Indicators:</i></p> <ul style="list-style-type: none"> <li>- By the project's year 1, <u>three</u> new terrestrial national PAs are legally created and contribute to an improved coverage and ecosystem representation within the PA estate (area to be added: 36,754 ha)</li> <li>- By the project's year 3, <u>five</u> new community reserves (one of them marine) and <u>two</u> national PAs (1 purely marine and 1 terrestrial/marine) are legally created, reaching the PA expansion and representation targets currently set for the PA system (area t.b.d.)</li> <li>- Results from applying the Capacity Development Scorecard for PA Systems, with respect to for individual, institutional and systemic capacity indicators, reflect improvements in PA management capacity (departing from a baseline likely to be very low, once applied)</li> <li>- Reductions in the PA funding gap, as calculated on the basis of the periodic application of the Financial Sustainability Scorecard for PA Systems</li> </ul>	<p>from adjacent communities.</p> <p>1.2) <b>Capacity:</b> PA agency staff at various levels and key members of communities and associations involved in PA co-management are capable of fulfilling their mandate; this will be thus achieved: (i) the availability of suitable office space and essential equipment, where needed; (ii) the establishment and customization of systems for mapping, tracking and disseminating a variety of data at the system's level; and (iii) the provision of adequate training on various aspects of PA management.</p> <p>1.3) <b>PA expansion:</b> A more representative system of PAs emerges, based on a PA system gap analysis and baseline studies, with the formulation of a 'PA System Strategy' and the legal gazettal, with the project's help, of terrestrial PAs and MPAs, bringing protection to approx. 22% of the country's land surface area (at least 41,870 ha) and adding 2 new MPAs to the estate (seascape area t.b.d.), indicatively as follows:</p> <p>(i) <i>PAs in the process of being created:</i></p> <ul style="list-style-type: none"> <li>▪ <u>Karthala Forest</u>, on Grand Comoro with 26,790 ha of primary and secondary montane forests, and a fairly large area of volcanic rock; includes two proposed co-managed Community Reserves within the perimeter (RC Hantsogoma with 946.4 ha and RC Ngubadju with 240.6 ha).</li> <li>▪ <u>Mohéli Rainforest</u>, on Moheli Island with 6,142 ha of mosaic vegetation including forests and agro-forestry systems in the large watershed of the Moheli Marine Park.</li> <li>▪ <u>Montagnes d'Anjouan / Mont Ntringui</u>, on Anjouan Island with 3,813 ha of relict primary and secondary montane forests.</li> <li>▪ <u>Moya Community Forest Reserve</u>, on Anjouan, with an area to be defined.</li> <li>▪ <u>Community Reserve Ilôt de Ndroudé</u>, on Grand Comoro with a coastal and marine area also to be defined.</li> </ul> <p>(ii) <i>PAs that have been recently proposed:</i></p> <ul style="list-style-type: none"> <li>▪ <u>Zone du Coelacanthé / Baie des Dauphins</u>, on Grand Comoro, with a marine area still to be defined.</li> <li>▪ <u>Bimbini Peninsula / Ilôt de la Selle</u> on Anjouan, with some 1,400 ha (estimate) of coastal flats and mangrove areas, plus the surrounding marine area of seagrass beds and coral reefs (surface to be estimated).</li> </ul> <p>1.4) <b>PA system finance:</b> Comoros makes important and tangible advances in addressing the PA finance issue by: (i) assessing the PA system 'funding gap';</p>			

Project Component	Grant Type	Expected Outcomes	Expected Outputs	Trust Fund	Indicative Grant Amount (\$)	Indicative Cofinancing (\$)
			and (ii) starting the implementation of a PA financing plan with the full support from government, donors, private sector and stakeholder communities.			
2) Site level PA operationalisation	TA / Inv.	<p><i>Increased management effectiveness for Comoros' PAs and MPAs provides increased protection to habitats in approx. 81,000 ha of protected land/seascape and to the species that they harbour.</i></p> <p><i>Indicators:</i></p> <ul style="list-style-type: none"> <li>- Improved METT scores vis-à-vis the baseline (t.b.d.) for: <ul style="list-style-type: none"> <li>▪ Mohéli Marine Park</li> <li>▪ Karthala Forest</li> <li>▪ Mohéli Rainforest</li> <li>▪ Montagnes d'Anjouan / Mont Ntringui</li> <li>▪ Moya Community Forest Reserve</li> <li>▪ Hantsogoma and Ngubadju RCs</li> <li>▪ Community Reserve Îlot de Ndroudé</li> <li>▪ Zone du Coelacanth / Baie des Dauphins</li> <li>▪ Bimbini Peninsula / Îlot de la Selle</li> </ul> </li> <li>- Change in population number of indicator species (t.b.d. on the basis of the priority species in the PA system, but will likely include sea turtles, coelacanth, flying fox, <i>Khaya comorensis</i>, and others)</li> <li>- Change in coral reef health status in MPAs</li> </ul> <p><i>The direct and indirect benefits to local community create tangible incentives for them to support efforts to preserve the biodiversity of the Comoros</i></p> <ul style="list-style-type: none"> <li>- Changes in income levels for local community households attributable to the development of biodiversity-friendly income generating activities</li> </ul>	<p>2.1) <b>PA management</b> is strengthened at the site level (list of target sites in the preceding column, under "METT"), so that individual PAs become more effective 'biodiversity storehouses' as follows:</p> <ul style="list-style-type: none"> <li>▪ Infrastructure essential for PA operation is built / recuperated;</li> <li>▪ PA sites are equipped and manned;</li> <li>▪ Management plans, operational plans, budgets and protocols are developed and implemented;</li> <li>▪ Implementation of ecosystem management in sites: e.g. strict conservation of critical habitats and cost-effective restoration of others where needed (including clearing of IAS);</li> <li>▪ PA surveillance is ensured with the participation of riparian communities;</li> <li>▪ Cooperative agreements with local CSOs for PA co-management are effective and joint PA management boards are supported; and</li> <li>▪ Long-term ecological monitoring system to assess the management effectiveness of the system of PAs.</li> </ul> <p>2.2) <b>Resource use governance:</b> Clarity on land tenure for terrestrial PAs and on seascape use-rights for MPAs ensure the ecological integrity of protected sites, with effective mechanisms for mediation and conflict resolution in place and operational in target PAs/MPAs.</p> <p>2.3) <b>Tourism:</b> A realistic plan/strategy for developing high-end eco-tourism activities in PAs/MPAs (or linked to them) is put forward and implemented, with full support from PA co-managing communities and investors.</p> <p>2.4) <b>Livelihoods:</b> In collaboration with project co-financiers and other development partners, a livelihoods programme is developed and implemented for the benefit of PA/MPA adjacent communities in support to collaborative PA management efforts by these stakeholders</p>	GEFTF	3,000,000	14,170,000
Sub-Total				GEFTF	4,051,527	18,905,000
Project Management Cost <sup>6</sup>				GEFTF	194,473	1,080,000
<b>Total Project Costs</b>				GEFTF	4,246,000	19,985,000

<sup>6</sup>Same as footnote #3.

**C. INDICATIVE CO-FINANCING FOR THE PROJECT BY SOURCE AND BY NAME IF AVAILABLE, (\$)**

Sources of Cofinancing	Name of Cofinancier	Type of Cofinancing	Amount (\$)
National Government	Ministry of Production, Energy, Environment, Industry and Handicraft (MPEEIH)	Grant	5,800,000
Bilateral Aid Agency	AFD	Grant	3,600,000
Bilateral Aid Agency	AFD (projet Djando)	Grant	6,960,000
Bilateral Aid Agency	Bristol/Durrell/AFD	Grant	1,000,000
Other Multilateral Agency (ies) (select)	Indian Ocean Commission / EC	Grant	1,500,000
Other Multilateral Agency (ies) (select)	University of Turin / EC	Grant	625,000
GEF Agency	UNDP	Grant	500,000
<b>Total Cofinancing</b>			<b>19,985,000</b>

**D. GEF/LDCF/SCCF/NPIF RESOURCES REQUESTED BY AGENCY, FOCAL AREA AND COUNTRY<sup>1</sup>**

GEF Agency	Type of Trust Fund	Focal Area	Country Name/Global	Grant Amount (a)	Agency Fee (b) <sup>2</sup>	Total c=a+b
UNDP	GEF TF	Biodiversity*	Comoros	4,246,000	424,600	4,670,600
<b>Total Grant Resources</b>				<b>4,246,000</b>	<b>424,600</b>	<b>4,670,600</b>

\*Note: The Union of Comoros is requesting the entire STAR allocation for this project and it is using the GEF V flexible mechanism.

<sup>1</sup> 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

<sup>2</sup> Please indicate fees related to this project.

**PART II: PROJECT JUSTIFICATION**

**A. DESCRIPTION OF THE CONSISTENCY OF THE PROJECT WITH:**

**A.1.1. THE GEF FOCAL AREA/LDCF/SCCF STRATEGIES / NPIF INITIATIVE:**

1. The project will seek to conserve globally significant marine and terrestrial biological diversity in the Union of Comoros by establishing an expanded and functional system of protected areas (PAs) in the country, a system that is both representative of the country's biodiversity endowment and which has good prospects for a sustainable future. The insular nature of Comoros and the fact that it is located in the biodiverse tropical zone of the Southern Indian Ocean place the country high in the global conservation agenda. At the same time, Comoros' biodiversity has been – and continues to be – highly impacted by human activity. Presently, the PA estate of Comoros includes only a single gazetted site, the Moheli Marine National Park, which was established in 2001. There are no formal terrestrial PAs, even though terrestrial ecosystems are under a considerable degree of pressure. Since the establishment of Moheli Marine Park, Comoros has had plans to establish at least one terrestrial and one marine protected area on each of the islands. Yet, for various reasons, including incipient PA management capacity, these plans have until now remained unfulfilled. The project will strengthen the PA system through expansion and capacity building, and by investing resources in PA management at the site level.

2. The current project strategy was selected following a review of possible investments with Comoros' STAR allocations. The urgency of addressing threats to Comoros' unique biodiversity, calls for a project with sufficient scope to address these threats, rather than splitting up the STAR total envelope into small initiatives with limited impact. After due consultations at ministerial level, involving Convention Focal Points and other relevant stakeholders, it was decided, at the Vice-Presidency's level, that Comoros would apply the GEF-V flexibility mechanism for this project, given that it is a high and immediate priority for the country.

3. The project responds to the GEF Focal Area Objective **BD 1** which is to 'Improve the Sustainability of Protected Area Systems' by focusing on improving the management of existing and new PAs (BD Focal Area Output 1.1). The project will support the implementation of the CBD's Strategic Plan for 2011-2020 and the CBD's Programme of Work on Protected Areas (PoWPA). On the former, the project will help Comoros meet **Aichi Target 11** at the national level by affording protection to approx. 22% of the country's land surface, hence going beyond the global target of 17%. The expanded terrestrial sub-system of PAs will cover at least 41,870 ha of PAs with the addition of at least 38,145 ha of new areas. With respect to the coastal-marine sub-set of PAs, all of Comoros' islands will count on established and operational MPAs with surface areas to be defined after due studies. For both sub-sets, the emphasis will be on protecting critical ecosystems for Comoros, such as tropical forests, coral reefs, seagrass beds and coastal wetlands. The project strategy will equally help Comoros implement the **PoWPA** at the national level through: (i) the strengthening and managing of national systems of protected areas; (ii) promoting equity and benefit sharing; (iii) enhancing and securing the involvement of local communities and relevant stakeholders in PA management; (iv) providing an enabling policy, institutional and socio-economic environment for PAs; (v) building capacity for planning, establishment and management of PAs; (vi) improving financial sustainability of PAs and national systems of PAs; and (vii) evaluating and improving the effectiveness of PA management.

**A.2. NATIONAL STRATEGIES AND PLANS OR REPORTS AND ASSESSMENTS UNDER RELEVANT CONVENTIONS, IF APPLICABLE, I.E. NAPAS, NAPS, NBSAPS, NATIONAL COMMUNICATIONS, TNAS, NIPS, PRSPs, NPFE, ETC.:**

4. The project is consistent with, and supportive of, the following national strategies, plans and reports:
- a) **Government Priorities.** Conservation and valuing of marine and terrestrial ecosystems is a priority declared by the Government of the Union of Comoros in the Strategic Program Framework for 2011-2016 with respect to the conservation of the natural environment, climate change and disaster risk reduction. The project is consistent with the principles for action related to shared governance and decentralized management of natural resources, the conservation of forests and restoration and degraded lands and the protection of fish stocks. The creation of the national network of protected areas is a process initiated since the 90's. The Government renewed its commitment in 2007 through the implementation of the OCB Project with the support of UNDP to develop the capacity of village communities and facilitate the creation of PAs.
  - b) **Poverty Reduction and Growth Strategy Paper (PRGSP) (2009).** In the Comoros, natural resources are the main source of livelihood and income for segments of the population most affected by poverty. As natural resources and ecosystems are threatened by uncontrolled exploitation, there is a risk of permanently compromising their vital economic potential. The project will contribute to the priority program on biodiversity conservation and equitable sharing of related benefits, which recognizes that, facing environmental threats such as deforestation and land degradation, the Comoros have to overcome constraints such as largely inadequate financial resources, unclear sharing of authority for environmental management between the Union and the Islands in the current organic framework, and lack of appropriate capacity at every level for natural resource management.
  - c) **National Strategy and Action Plan for Biodiversity Conservation (2001).** The project implements major themes of the NBSAP<sup>7</sup> through *i*) the adoption of a framework for protected area management that recognizes the importance of community participation in the development and management of PAs, *ii*) capacity development in biodiversity conservation and management of PAs, *iii*) establishing a system for the long term monitoring of biodiversity, and *iv*) restoring degraded ecosystems, controlling alien species, and promoting the recovery of endangered species within PAs.
  - d) **Priority Action Plan for Forestry Development (2011).** The project will contribute to priority actions 3 *Preservation of relics of natural forests* and 5 *Supporting the development of protected areas* of the scope of action on participatory and sustainable management of natural resources.
  - e) **Land Degradation Assessment in Drylands report (2010).** The assessment concludes that the degradation observed in the Comoros occurs mainly in the form of reduced land fertility attributable to erosion associated with the reduction of vegetation cover. Land resources in the forest system are for farmers the most available way to compensate for production losses related to reduced land productivity in crop systems primarily based on extensive shifting cultivation. The report also recognises that the situation relates to lack of clarity with respect to land tenure and the weaknesses in the forestry departments. The project will address deforestation and degradation through system level barriers and as key drivers to biodiversity loss.

**B. PROJECT OVERVIEW:**

**B.1. DESCRIBE THE BASELINE PROJECT AND THE PROBLEM THAT IT SEEKS TO ADDRESS:**

5. **Introduction.** The Union of the Comoros consists of three islands situated in the Western Indian Ocean in the northern part of the Mozambique Channel, equidistant from continental Africa and Madagascar : Grand Comoro (or Ngazidja, 1,148 km<sup>2</sup>), Moheli (Mwali, 290 km<sup>2</sup>) and Anjouan (Ndzuani, 424 km<sup>2</sup>), with a total area of 1,862 km<sup>2</sup> and coastline of 340 km. The archipelago includes a fourth island, Mayotte (Maore, 370 km<sup>2</sup>), which is under French administration. The highest point, 2600 m, is Mount Karthala, an active volcano in the south of Grand Comoro. Mount Ntringui in Anjouan reaches 1595 m and the maximum altitude on Moheli is 790 m. These volcanic islands are isolated from each other by 400 to 3000 m deep oceanic trenches. They appeared in different geological periods, which conferred distinct biophysical characteristics to each of them. Furthermore, these islands were never connected to each other, nor to Africa or Madagascar. Despite their smallness, heterogeneous ecological conditions in relation to altitude, climate and soil resulted in a high diversity of terrestrial ecosystems that are home to many endemic, endangered and migratory species.

6. These small islands are subject to high population pressure leading to intense exploitation of their resources which is nearing the limits of their carrying capacity. Demography is characterized by a very young population and a high density over 395 inhabitants/km<sup>2</sup>, making it one of the most densely populated countries in Africa. In 2012, the Comorian population is estimated at 737,284 inhabitants<sup>8</sup> with an annual growth rate of 2.063%. The unemployment rate among 15 to 24 years reached 29.4% in 2004<sup>9</sup> and the proportion of the population living below the poverty line, 44.8%. Agriculture, including fishing and forestry, contributes to 40% of the GDP, employs 80% of the labour force, and provides most of the exports. The limited size of cultivable area constrain production capacity, preventing any economy of scale. The country's small economic base, which relies solely on the products of three cash crops (vanilla, cloves, and ylang-ylang), its geographical isolation, the small size of domestic markets and the geographic dispersion of islands result in considerable additional costs in infrastructure, transport and communications.

7. **Global Biodiversity Significance.** The Union of the Comoros forms part of the Biodiversity Hotspot of "Madagascar and the Indian Ocean Islands", as defined by Conservation International. The country includes 3 Ramsar sites (lake Dziani Boundouni, Mount

<sup>7</sup> The current NBSAP is in the process of being revised to align the strategy to the Aichi Targets.

<sup>8</sup> CIA (US). The World Factbook. Accessed online : <https://www.cia.gov/library/publications/the-world-factbook/geos/cn.html>

<sup>9</sup> Union des Comores, 2005. Stratégie de Croissance et de Réduction de la Pauvreté de l'Union des Comores. Document synthèse. 32 p.

Karthala and Mount Ntringui) and 4 Important Bird Areas (La Grille, Mount Karthala, Moheli highlands and Anjouan highlands).

8. The Union of the Comoros and its territorial waters contain unique biodiversity as revealed by high levels of endemism within various groups of fauna and flora that are now threatened by the loss or fragmentation of their habitat, but also by inadequate management and protection. This combination of diversity and threat makes Comoros a high priority for the conservation of globally significant biodiversity. Terrestrial ecosystems include closed rainforests and dry forests on the highlands of each island, arborescent heather savanna (*Philippia* spp.) on the slopes of the Karthala, and crater lakes on each island. Marine and coastal ecosystems include coral and volcanic sand beaches, mangroves mostly occurring on the southern shore of Moheli and around Bimbini peninsula and La Selle Islet, volcanic rocky shores mostly occurring on the western coast of Grand Comoro, coral reefs widely distributed around each island (total reef area of 305 km<sup>2</sup>)<sup>10</sup> and seagrasses at the northern and southern ends of Grand Comoro, around Bimbini Peninsula in Anjouan and along the southern coast of Moheli. While some species such as the coelacanth, sea turtles, the dugong, the Livingstone fruit bat, whales and dolphins, have raised considerable scientific interest, many are still unknown to science.

9. At least 935 species of plants are recorded of which approximately 500 are endemic<sup>11</sup>. Endemism reaches 50% in the orchid family, with 43 endemic species. Endemic trees include rare precious wood essences such as *Weinmannia comorensis*, *Ophiocolea comoriensis* and *Khaya comorensis*. Insects are little known, but endemism for Lepidoptera and Coleoptera has been estimated at 34% and 24% respectively; three butterfly species being classified as threatened. A recent survey<sup>12</sup> reports the presence of two amphibian species and at least 28 species of reptiles. 14 of the 28 currently recognized species of terrestrial reptiles (50%) and the two amphibians are endemic to a single island or to the Comoro archipelago. The endemic subspecies *Oplurus cuvieri comorensis* is proposed for the status Critically Endangered. The status Endangered is proposed for three species, Vulnerable for one species, Near Threatened for six species, Least Concern for four and Data Deficient for two species. The Comoros give refuge to 98 bird species of which 52 are migratory, 10 are endemic and 9 are globally threatened<sup>13</sup>. Sixteen bird species are archipelago endemics but the distribution of species across the islands is not uniform, with each island having its own set of endemic species: five on Grand Comoro, three on Moheli, and one on Anjouan. Four species are restricted to Mt. Karthala alone which makes it the most important area for bird conservation. Endemic mammals include the Comoro Rousette (*Rousettus obliviosus*), found on all three islands, listed as vulnerable<sup>14</sup> and the Comoro black flying fox (*Pteropus livingstonii*), found on Moheli and Anjouan, listed as endangered. Latest surveys estimated *P. livingstonii* population size at 1200 individuals. Both species are threatened by forest destruction, reduction of flow in rivers on Anjouan and Moheli Islands, and the disappearance of the tree species on which their survival depends.

10. The Comoros are also home to a number of globally threatened species that are not endemic to the country, but that have regionally restricted ranges or are globally rare. Most famous of these is the critically endangered coelacanth, *Latimeria chalumnae*, found off the coasts of Grand Comoro and Anjouan. Although the coelacanth occurs in other parts of the Indian Ocean, recent genetic studies<sup>15</sup> based on mtDNA sequences indicate that the coelacanths from the Comoros form a separate breeding population, which reinforces the critical importance of conserving this population. An expedition conducted with a submersible in 2008 estimates that the population in the south west of Grand Comoro reaches approximately 500 individuals<sup>16</sup>. Recent research suggests that the survival of the coelacanth is severely threatened by accidental catches of local fishermen.

11. The dugong *Dugong dugon*, listed as vulnerable, occurs around Moheli and possibly the other islands. The Mongoose lemur *Eulemur mongoz*, also listed as vulnerable, occurs only in the Comoros and Madagascar. Similarly, there are a number of bird species with very restricted ranges, known only from the Comoros and neighbouring islands, such as the endangered<sup>5</sup> Madagascar heron (*Ardea humbloti*).

12. Several migratory species use Comorian waters as breeding grounds. Two species of marine turtle, the endangered<sup>5</sup> green turtle (*Chelonia mydas*) and the critically endangered<sup>5</sup> hawksbill turtle (*Eretmochelys imbricata*) nest in the Comoros in significant numbers, making it the most important nesting site in the Indian Ocean and the 10<sup>th</sup> in the world. Humpback whales (*Megaptera novaeangliae*) visit Comorian waters to reproduce from mid-July until the end of October. They are not currently known to be threatened but could be affected by industrial fishing activities (risk of collisions with boats and entanglement in fishing nets), unregulated development of whale-watching for tourists, and potential exploitation resulting from the absence of patrolling at sea.

13. **Threats to Biodiversity** in Comoros can be classified within the following categories: (i) Habitat / land use change; (ii) Invasive Alien Species; (iii) Overexploitation; and (iv) Climate Change, the main threat being the loss of forest habitat to encroaching agriculture. The poor development of economic activities and the dependence of mainly rural communities on natural resources for their livelihoods induce a strong human pressure on resources. This pressure is often exerted through the use of unsustainable and even destructive farming and fishing methods, such as slash and burn or fishing on foot on coral reefs. In addition, the limited territory increase the intensity of population pressure contribute to intensive exploitation of resources, conversion of vegetation cover and loss, degradation and fragmentation of habitats.

<sup>10</sup> IRD. 2009. *Atlas of Western Indian Ocean Coral Reefs. Indian Ocean – EEZ Comoros.*

<sup>11</sup> Gillespie R.G. and D.A. Clague. 2009. *Encyclopedia of islands.* 1074 p.

<sup>12</sup> Hawlitschek et al. 2011. *Integrating field surveys and remote sensing data to study distribution, habitat use and conservation status of the herpetofauna of the Comoro Islands.* ZooKeys 144: 21–78, doi: 10.3897/zookeys.144.1648

<sup>13</sup> BirdLife International. 2012. *Country profile: Comoros.* Available from: <http://www.birdlife.org/datazone/country/comoros>.

<sup>14</sup> The status of species listed in this section is from the IUCN Red List of Threatened Species. Version 2011.2. <[www.iucnredlist.org](http://www.iucnredlist.org)>. Downloaded on 01 May 2012

<sup>15</sup> Nikaido, M., Sasaki, T., Emerson, J., Aibara, M., Mzighani, S., Budeba, Y., Ngatunga, B., Iwata, M., Abe, Y., Li, W., and N. Okada. 2011. *Genetically distinct coelacanth population off the northern Tanzanian coast.* Proceedings of the National Academy of Sciences, 108 (44), 18009-18013

<sup>16</sup> Ahamada S. 2008. *Comores: Expedition internationale sur le Coelacanth. Portail Ocean Indien.*

**(i) Habitat/ land use change.** The felling of understory trees and encroachment into the forest system is a common technique used by farmers to compensate for reduced productivity in food crop systems. This process will also facilitate subsequent forest clearance. In Comoros, many endemic plant and animal species of limited distribution are associated with the remaining forests. Loss or degradation of natural forests leads directly to loss of habitat for these species. Almost all the cultivable land is already occupied and the only possible extension of agriculture can be done at the expense of remaining forest areas. In 1951, the Comorian natural forests covered an area of 31,000 ha in the three islands, about 14% of the total land area. Between 1974 and 1985, the forest was reduced from 19,100 to 12,375 ha (about 7% of the country), an overall reduction of 35%. As a result of unabated deforestation in the subsequent decades, by 2010, primary forest areas were reduced to only 3000 ha, or 2% of the country. This is according to FAO's forest assessment, which used sampling tracts as an assessment method.<sup>17</sup> However, a recent study that used remote sensing indicated a slightly larger area of the country's land surface under "closed forest", i.e. 9%, and 27% under "degraded forest".<sup>18</sup> Irrespective of the methods for categorising forest and assessing deforestation levels, it is clear that deforestation and degradation has had a major impact on Comoros' terrestrial biodiversity.

**(ii) Invasive Alien Species.** Invasive species are now regarded as the main threat to native biodiversity across the islands of the Indian Ocean, except in the Comoros where large-scale deforestation still prevails. Yet, it constitutes an important threat. Sixteen invasive trees and shrubs species were identified as invasive for the Comoros archipelago.<sup>19</sup> They have been introduced as timber trees, fruit trees, spice crops, for erosion control, as ornamentals, and for multiple purposes such as fuel wood, forage and stakes for vanilla. Eight invasive plant species are considered to be highly problematic: *Acacia auriculiformis*, *Acacia mangium*, *Clidemia hirta*, *Lantana camara*, *Litsea glutinosa*, *Psidium cattleianum*, *Spathodea campanulata* and *Syzygium jambos*. All of these species are found at high densities in disturbed areas and in secondary forests, but have also been found in undisturbed habitats. Where land in cultivated sites is abandoned, invasive exotic vegetation (shrubby or herbaceous, but also creepers) generally takes over. In terms of invasive animal species, indigenous birds and reptiles face the most significant impact. In an attempt to control rats brought by early settlers, lesser Indian civets (*Viverricula indica*) were introduced but are instead decimating the endemic snake populations. Ship rats probably affect native birds the most. The hedgehog-like tenrec introduced from Madagascar is thought to damage gecko populations in Comoros. Mongoose, introduced in Grand Comoro during the 1960's or 1970's, is a potentially devastating predator for many small birds, mammals and reptiles.<sup>20</sup>

**(iii) Overexploitation of natural resources.** Natural and secondary forests are threatened by timber removal to meet the local needs for carpentry, construction and energy. Selective logging of endemic precious woods *Weinmannia comorensis*, *Ocotea comorensis*, *Khaya comorensis* may also have a tangible impact on their populations. Charcoal is still widely used as domestic fuel and also very intensively in the distillation of ylang-ylang essence. Misunderstanding of the potential of the forest and lack of awareness and concern for the conservation of endangered species are major causes of this lack of management. Furthermore, some traditional practices of near-shore fishing are not sustainable because they destroy fish habitats such as the use of *Tephrosia*, fishing on foot at low tide on coral reefs, and spear fishing targeting coastal fish and octopus. Over 4,500 registered fishers use traditional boats to fish in near-shore waters. Most fishing is done by locals for subsistence. The limited range of traditional pirogues increases the risk of accidental capture of coelacanths. The intentional exploitation of sea turtle eggs and meat, coupled with excessive sand mining, imposes a severe threat to the population of these species, already endangered world-wide. Exploitation of marine turtles has been prohibited in the Comoros since 1979, and this ban was reinforced through a ministerial decree in 1992 and an order in 2001. Despite this, turtles are still being taken because of their ease of capture and the lack of patrolling on the beaches.

**(iv) Climate Change.** The IPCC scenarios for the Indian Ocean predict a rise in air temperature of 1.4°C to 3.7° C by 2100 for the Comoros and a sea level rise of 20 cm over the next fifty years.<sup>21</sup> While climate change will impact biodiversity in Comoros in the medium to long-run—being therefore mostly a 'future threat'—other threats are much more present and prevalent today.

14. **The PA system.** Protected areas are the principal means of protecting the unique biodiversity of the Comoros while preserving the ecosystem services on which rests the narrow subsistence base of local communities. The GEF-UNDP project "*Conservation of biodiversity and sustainable development in the Federal Islamic Republic of the Comoros*" (implemented between 1997 and 2002) allowed the creation in 2001 of the first protected area in the Comoros, the Moheli's Marine Park, as the first step of an envisaged network of six sites, with one marine and one terrestrial protected area designated for each island. Since then, the Government pursued its efforts towards implementing this plan, notably through the OCB and ECDD projects (further explained in paragraph 21), which focuses on terrestrial sites with a view to create 3 national protected areas and 3 community reserves, and on developing national capacity for environmental management. Through these projects, biodiversity inventories, identification of land/resource use and threats, GIS-based delineation and zoning were completed or are in the processing of achieving this. Also, village co-management agreements were negotiated and prepared, and draft decrees for the creation of the national protected areas were formulated and technically validated. Hence, at least three sites are very close to gazettal. The OCB and ECDD projects also contributed to the establishment and capacity development of local advisory committees consisting of two delegates from each village bordering a protected area which will ensure the representation of village communities in the co-management of protected areas.

<sup>17</sup> FAO National forest assessments - Overview Comoros, <http://www.fao.org/forestry/17847/en/com/>

<sup>18</sup> Hawlitschek et al, 2011.

<sup>19</sup> Vos, P. 2004. Case Studies on the Status of invasive Woody Plant Species in the Western Indian Ocean: 2. The Comoros Archipelago (Union of the Comoros and Mayotte). Forest Health & Biosecurity Working Papers FBS/4-2E. Forestry Department, Food and Agriculture Organization of the United Nations, Rome, Italy.

<sup>20</sup> Gillespie R.G. and D.A. Clague. 2009. Encyclopedia of islands. 1074 p.

<sup>21</sup> ASCONIT Consultants. 2011. Étude des vulnérabilités-adaptations aux Comores. Résumé exécutif. COI - Projet Acclimate 8 p.

15. In sum, the current protected area system includes one marine protected area covering 40,400 ha of seascape, including islets covering 2% of terrestrial areas. Other areas are in the process of being created and yet others have only been recently proposed, both through ongoing initiatives. This project will reinforce this process. It will add 36,745 ha of terrestrial PAs and expand PA coverage to 22.5% of the national territory area. The project will also help create MPAs (Ndroudé, Coelacanth and Bimbini), although with site areas still to be defined. All of the existing PAs/MPAs provide habitat to unique and threatened species across the country. Specific sites within the PA estate enjoy international designations, more precisely Important Bird Areas (IBAs) and Ramsar sites (refer to the Annex to the PIF for more information).

**Table 1. The Protected Areas Estate of the Comoros\***

PA name and island in parenthesis	Designation	Management	Status	Terrestrial area (ha)	Marine area (ha)	Total area (ha)
Moheli's Marine Park (Mo)	National Park	Collaborative	Gazetted in 2001	3,725	36,675	40,400
Karthala Forest (GC)	National protected area	Collaborative	Decree technically validated	26,790	-	26,790
Moheli's Rainforest (Mo)	National protected area	Collaborative	Decree technically validated	6,142	-	6,142
Massif of Mt Ntringui (An)	National protected area	Collaborative	Decree technically validated	3,813	-	3,813
Moya forest (An)	Community reserve	Community	In process	t.b.d.	-	t.b.d.
Hantsogoma (GC)**	Community reserve	Community	In process	[946.4 within Karthala PA]	-	(incl.)
Ngubadju (GC)**	Community reserve	Community	In process	[240.6 within Karthala PA]	-	(incl.)
Ndroudé Islet (GC)	Community reserve	Community	In process	t.b.d.	t.b.d.	t.b.d.
Coelacanth Zone / Baie de Dauphins (GC)	National protected area	Collaborative	Proposed	-	t.b.d.	t.b.d.
Bimbini Peninsula / Ilôt de la Selle (An)	National protected area	Collaborative	Proposed (terrestrial area is approximate)	1,400	t.b.d.	t.b.d.
Total existing PA estate				3,725	36,675	40,400
Total area of new PAs above and whose establishment will be facilitated by the project				At least 38,145	t.b.d. (likely 2-3,000)	Approx. 40-41,000
Total expanded PA estate				At least 41,870	t.b.d. (likely ~40,000)	Approx. 81,000

**Notes:**

\* See Annex to the PIF for a thorough description of the biodiversity values in these PAs. The establishment of another community reserve on Turtle Island (GC) is in progress with the support of the GEF SGP and may soon be officially added to the estate.

\*\* The gazettal of these two Community Reserves will be handled as part of the efforts to create the Karthala Forest PA.

16. Protected areas in the Comoros are governed by Articles 46 to 49 of the Framework Law on Environment (1994, rev.1995), which defines the types of protected areas, the gazettal process and the requirements for PA designation decrees. It does not specify which entity is in charge of managing and/or overseeing the management of PAs—it remains implicit that it should be a directorate of the ministry in charge of the environment, which has an overarching role of implementing the Framework Law. The gazettal of each site depends on a Decree from the Council of Ministers, based on a proposal from the minister in charge of the environment and following a public inquiry and consultation process with local and regional public authorities (Article 47). Article 48 provides *inter alia* for the need to develop PA management plans, which must be designed primarily for the “maintenance of traditional land uses” that are consistent with objectives the PA establishment, including its management entity. The Directorate General for the Environment (DGEF) assumes the institutional responsibility for protected areas in Comoros and it is responsible for coordinating and monitoring measures in the strategy for biodiversity conservation in the country and the coordination of the Government’s and NGOs’ actions to protect marine, coastal and terrestrial ecosystems.

17. Presidential Decree No. 01-053/CE (2000) that created the Moheli Marine Park serves as a model for other PAs. It indicates that the park falls under the responsibility of the ministry in charge of environment and that is managed by a joint management committee comprising representatives of the villages bordering the PA and the ‘curator’ of the park (i.e. site manager or *conservateur*). Village communities are involved in the management of the MPA under formal collaborative management agreements between each of them and the island authority in charge of environment. Negotiations are carried out with input from their local development or environment (Ulanga) associations, based on a framework agreement for co-management, which is also developed in a participatory manner.<sup>22</sup> These agreements define the zoning, the rules for resource use, roles and responsibilities including community involvement in the surveillance and the designation by each village association of ‘eco-guards’ (park wardens) and of a

<sup>22</sup> Park governance is ensured by a management committee composed of representative from local communities, as well as the local institutional stakeholders. This is the model envisaged for the PAs in the process of being created. The technical team within the park and the *eco-guards* will ensure day-to-day management of the area. The management committee reviews the PA annual report, validates the PA work plan and provide overarching guidance on PA management strategies.



representative on the joint management committee. Although evaluations<sup>23</sup> and the test of time have revealed several shortcomings in this co-management approach, it has been recognized as the most appropriate model for the governance of protected areas in the Comoros.

### ***The Baseline Project***

18. The remaining forested areas in Comoros have clearly approached the limits to agricultural expansion through new clearings. On the one hand, this means that agricultural intensification is an imperative, as are efforts to stem land degradation in terrestrial ecosystems. On the other, there is an urgent need to address direct threats to these highly threatened ecosystems by providing protection to them through a PA approach. This project made the **strategic choice** of focusing on the latter for two key reasons. First, a preliminary analysis of land management interventions showed that the needed intensification of agriculture is already taking place with funding from other sources but the GEF. At this stage, GEF funding would probably have a limited impact on SLM in Comoros. Secondly, a consolidated approach that focuses on PAs will help address threats to biodiversity both in the terrestrial and in the marine environment. The latter is also under increasing pressures. The chosen approach will afford the much needed protection to relict forest patches, as well as coastal and near-shore threatened habitats.

19. **The Long Term Solution** is to establish in Comoros an effectively managed PA system, composed of both PAs and MPAs, a system that is representative of the country's biodiversity and that provides a much more significant coverage to unprotected ecosystems and safehaven to threatened species. The sustainability of this system also needs to be secured. The Baseline project, contributing towards this long-term solution and underpinning the GEF investment, comprises both national investments and commitments and donor financed interventions.

20. **Financial baseline investments** Currently, the budget dedicated to the management of PAs by the Directorate General for the Environment is somewhat limited. It includes the salaries of senior staff in the Directorate, of 6-8 technical staff in the Ministry's central office on Gran Comoro, plus 2-3 staff on each of the islands. Office space is provided, but the current operational budget for the Directorate, including for the management of Moheli Marine Park, is limited to \$100-150K per annum. With the prospects of enlarging the PA estate, there is a widespread recognition that state allocations will need to gradually increase, possibly reaching a total of \$700-800K per year in the next 5 years. Total government investments in the management of existing and new PAs and in strengthening sustainable resource use in PA surrounding areas were estimated to represent some \$5.8M for the duration of the project.

21. The investment from donor agencies in PA management is significant. UNDP e.g. counts on two programme that contribute to PA management in different ways: (1) the 'OCB Project', or "*Capacity development and promotion of CBO volunteering as a model for involvement of village communities in achieving the MDGs in the Comoros*"; and (2) the 'CNDD Project' or "*Developing capacities for environmental management and multi-sectoral coordination for sustainable development in Comoros*". Together, they constitute a baseline of \$1.6M. The French Development Agency (AFD) is investing heavily on the on-going management of Moheli Marine Park and in its large watershed, proposed as the Moheli Rainforest PA. This is rolled out in part through the 'AFD Djando Project' and the 'Moheli Project', and in part through the 'ECDD project', which is implemented in collaboration with Bristol Zoo and the Durrell Wildlife Conservation Trust—all of which are conservation oriented investments that represent some \$14.2M from AFD. The Indian Ocean Commission (IOC) is also involved in management of forests, coastal areas and fisheries—themes that are relevant for this project. These investments by the IOC (jointly with EU and FAO) represent a baseline of approximately \$7.0M. Furthermore, investments in ecological research are making a contribution to the management of PAs in Comoros by generating essential knowledge and analysis for improving the PA system. These support activities are mainly financed by the EU, University of Turin and France's Institut de recherche pour le développement (IRD). Together, they represent \$1.5M in baseline investments.

22. Investments in tourism in Comoros are still incipient—and not comparable to regional "competitors" such as Reunion, Mauritius, and Seychelles. It is however in the increase. Concessions were e.g. awarded to the Qataris and there are now flights from Nairobi and Tanzania, both tourism hubs, and from the Gulf (Dubai). The main tourist attractions in Comoros are its beaches, underwater fishing and mountain scenery. Both Moheli and Kathala are picturesque tourist attractions, which may in the future generate revenue for investment in PA management. This also creates the potential for the development of high-end eco-tourism products and facilities. Although currently difficult to assess and project, this new stream of investments could represent a baseline of \$5-8M over the project's lifetime.

23. The project's baseline accounts for previous and planned investments that have established—or will establish—the conditions that make the implementation of the proposed project possible. They do that by addressing gaps, building knowledge and forging partnerships among stakeholders—ultimately enhancing the GEF's catalytic role within the project. **The total project baseline** represents an investment of **approximately \$36.5M**. Some of the baseline funding is also expected to provide co-financing to the project (refer to Part I, Table C in this PIF). However, even though baseline activities are significant, they fall short of the proposed long-term solution of constituting a functional and more sustainable system of PAs in the Union of Comoros. Two sets of **barriers** stand in the way to achieving this solution.

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<sup>23</sup> J. Brand, 2007. *Diagnostic de la situation du parc marin de Mohéli (PMM) et propositions d'actions. Rapport préparé pour le Projet Réseau des Aires Protégées Marines des Pays de la Commission de l'Océan Indien*. 44 p. – Roby D., Soulé H., Combo A. et A. Sene. 2002. *Évaluation finale du projet PNUD/GEF Conservation de la Biodiversité et Développement Durable aux Comores*. Ministère de la Production et de l'Environnement, Union des Comores. 82 p.

Barriers	Elaboration
<p>PA system faces a number of effectiveness constraints.</p>	<p>Currently, there is only one established PA in Comoros, which is the Moheli Marine Park and although its marine area is large, the Park covers only 2% of the country's land surface. In order for Comoros' PA system to become more effective in conserving the country's biodiversity endowment, the PA estate must be expanded and it must include terrestrial areas, in particular forests and, where possible primary forest, which should afford strict protection at this stage.</p> <p>At the same time, the current plans for establishing new PAs (see Table 1) will bring under protection large patches of forests of varied quality in all of the three Islands on the Union. It will also protect coastal areas and seascapes, where organised communities are the driving force behind the on-going gazettal. Yet, from a PA network perspective, it may be said that the design of the nascent PA estate has built more on opportunity than on scientific advice. For ensuring that the new PAs become effective 'centers of biodiversity conservation', the challenge is to ponder purely scientific criteria<sup>24</sup> with the societal feasibility of setting land- and seascapes aside for conservation. In this light, the support of surrounding communities that will potentially co-manage sites—and/or be impacted by its establishment—is essential, but not always easy to obtain. Furthermore, decisions on the establishment of new areas were made a while back (see Table 1 and para 14) and without e.g. the support from an ecological gap analysis for the country. The lack of such analysis may foreclose options in the long-term with respect to the sustainability and the resilience of the system.</p> <p>Another key constraint in the establishment of new PAs is the fact that the legal framework governing protected areas is underdeveloped. The key piece of legislation for PAs is the generic Framework Law on Environment, which regulates a number of other matters pertaining to environmental management. The chapter on PAs counts on four articles only and it is clearly insufficient in terms of providing legal guidance on matters such land ownership of PAs, or for defining PA categories besides 'national park' and 'natural reserve' (the only two foreseen in the Law). It is notable that these national categories are not explicitly linked to IUCN PA categories<sup>25</sup>, nor to international categories and designations such as IBAs, Ramsar sites or Biosphere Reserves—while these exist in Comoros or have been proposed. Also, the Framework Law on Environment does not define roles and responsibilities for PA management under co-management models. Neither does it make provisions for securing public budgetary allocations to finance the functioning of PAs. The planned PA expansion could count on an improved legal framework specific on PAs.</p> <p>At the institutional level, management capacity within Comoros' PA system has visible shortfalls. On the one hand, the Ministry in charge of the environment has the mandate for managing PAs at the level of the Union of the Comoros. On the other, the boundary between this mandate and the mandate of the regional environment services in the autonomous islands is not clear. DGEF, which is currently responsible for PAs at the central level under MPEEIH, is in charge of planning and coordination inventory studies, monitoring of biodiversity and the establishment of databases. Yet, it does not count on any permanent information systems that would allow it to monitor ecosystems and resources in Comoros on the basis of indicators. A few studies were conducted, but only in the context of projects supported by external partners. The limited spatial and temporal scope of data on the status of resources is not conducive to making timely informed decisions to effectively reduce the pressure on resources. Technical capacity within DGEF is limited and relies mostly on technical teams that are linked to projects or volunteers, contractors and interns.</p> <p>Finally, in the past few years, support to PAs has been too reliant on donor funding. Beyond salaries, there is no formal operational budget provided by the state on a regular basis—although the government does support initiatives with a few symbolic inputs such as La Maison du Parc Marin de Mohéli. On other islands, the government contributes with in-kind support by providing office space and electricity needed to house the technical teams working on sites. Still, underfunding of PAs and insignificant revenue collection from them is a key barrier. On a positive note, an Environment Trust Fund was recently created, but remains to be fully capitalised.</p>
<p>New PA sites being created are far from operational and there is limited experience with effective PA management in Comoros.</p>	<p>The process of PA gazettal and operationalisation is at different stages for different areas: (1) Of the new PAs, only 3 sites count on decent cartography indicating key features and the boundaries of the PAs on a map. These are: Karthala forest (including the 2 Community Reserves within it, Hantsogoma and Ngubadju), Moheli's Rainforest and the Massif of Mt Ntringui. (2) Biodiversity and socio-economic surveys remain to be carried out for Ndroudé Islet, Bimbini Peninsula / Ilôt de la Selle and the Coelacanth Zone / Baie de Dauphins—although a survey is on-going for the latter, but with very limited funding. (3) Of all PAs, only the Moheli Marine Park and the Coelacanth Zone / Baie de Dauphins count on infrastructures—for the latter it is the <i>Center for Information, Education, Valorization and Conservation of the Coelacanth and its Marine Environment in the Comoros</i>.<sup>26</sup> The tasks necessary for achieving the full gazettal and operationalisation of the areas will require field expertise which will need to be fostered in Comoros. In this respect, a number of technical and organisational challenges will need to be overcome.</p> <p>Perhaps the greatest barrier to establishing PAs and MPAs in Comoros and to averting threats from PA adjacent areas is the lack of clarity on land tenure and on seascape use rights. These elements are coupled with the incipient enforcement of regulations on the matter. In land areas, tenure insecurity remains a key threat driver that fuels deforestation. The overlapping systems of law, customary, religious and civil norms that regulate land tenure in Comoros are not conducive to solving potential land disputes and conflict. In seascapes that are bound to become MPAs, fish is currently an open access resource. Fishing activities are regulated, but enforcement is weak. The decrees that will create the MPAs will certainly impose</p>

<sup>24</sup> E.g. as in Hawlitschek et al, 2011, though it covers only terrestrial ecosystems.

<sup>25</sup> E.g. while terrestrial national parks (IUNC Category II) would typically be no-consumption areas, 'marine parks' would tend to fall under IUCN Category V (Protected Landscape/Seascape: managed mainly for landscape/seascape protection and recreation) and sometimes VI (Managed Resource Protected Area: managed mainly for the sustainable use of natural ecosystems). Comoros' Framework Law on the Environment makes no distinction between terrestrial and marine national parks in this respect.

<sup>26</sup> <http://cnddcomores.centerblog.net/12-allocation-pour-inauguration-de-la-maison-du-coelacanth> blog of the National Commission on Sustainable Development of the Comoros – speech dated April 2, 2011

Barriers	Elaboration
	<p>regulations on resource access and use, while the management plans will indicate the means for enforcement. Yet, changing ancient practices and exerting effective enforcement will face challenges.</p> <p>In connection with it, the Comorian experience from managing the Moheli Marine Park offers some dear lessons. Co-management, which seems to be system of choice for the bulk of new PAs and MPAs in the country, can be complicated and risky. This is particularly true in poverty riddled environments, where people have few income generating activities, some of which can be negatively affected by PA/MPA establishment. The challenge is to find trade-offs, win-wins and create conflict resolution mechanisms.</p> <p>Finally, a note on tourism. In many PAs and MPAs throughout the world, tourism offers some of the best options for generating income for conservation. Tourism, and eco-tourism in particular, have a reasonable potential in Comoros. There were even a few success stories in the 1990's, but political instability the past few years and disinvestments from the industry made the country a less attractive tourism destination. Currently, only 3000 foreign tourists visit Comoros every year. While there is a potential for this number to increase, the challenge is to better understand and exploit the existing potential with a pondered and risk-averse investment and marketing strategy.</p>

**B. 2. 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:**

24. **Under the business as usual scenario**, Comoros would struggle for years to complete the process of gazetting new areas. The expansion of the system would not count on an overarching strategy to orient PA policies. While it is possible that some areas will achieve full gazettal, given that the process is rather advanced for some of them, this would not be followed by a quick operationalisation of sites. Furthermore, funding is scarce and the achievements from previous PA supporting interventions risk not being sustained. As a result, globally important ecosystems and species in Comoros would continue to be threatened. Deforestation and degradation would not be buffered by PAs, leading to further land-use change and loss of habitats. Overfishing will continue unabated in coastal areas and fish stocks for certain species may eventually collapse. The near-shore marine ecosystems would thereby become increasingly simplified and coral communities more vulnerable. Some species with limited ranges will see their habitats more and more fragmented, leading them into the pathway of extinction (noting that some of them already are). If this project is successfully implemented, this scenario will not happen.

25. The Government of the Comoros is requesting GEF support through this project to remove, in an incremental way, the existing barriers to the establishment and management of a consolidated PA system in Comoros. The project sets ambitious but feasible targets for the next five years in terms of establishing a system of PAs and creating the basis for its sustainability. Two components are planned:

***Component 1: PA system strengthened through expansion and capacity building***

Under this Component, the project will work on four inter-related fronts: (1) improving the legal and institutional frameworks for PA management; (2) strengthening capacity for PA management at the system's level; (3) engineering the PA expansion and codifying a strategy for the PA system; and (4) improving the financial sustainability of the PA system. This will imply the following:

The project will ensure that there is a better legal and institutional basis for the establishment and management of PAs and MPAs in Comoros. On the one hand, this will imply reforming the institutional structures responsible for PA/MPA management. On the other, it implies upgrading the qualifications of key people who will be engaged in PA management. Based on a participatory gap analysis, Comoros will also count on a widely vetted and supported 'PA System Strategy', which will guide policies for the overall development of the system over the medium-term.<sup>27</sup> With respect to the mentioned institutional reform, the project will assist in drafting a new decree that clarifies the mandate, attributions and the organigramme of PA managing entities, including roles of key staff, both at the central level (Union) and at the level of the islands (subsidiary institutions). Technical posts will be created to ensure that this entity will be able to draw on an array of skills that are necessary for effectively managing PAs – e.g. managers, biologists, GIS experts, economists, community engagement experts, communication & outreach professionals etc. Many of the staff will be deployed to sites. At the site level, the PA management entity will also deploy *conservateurs* and a corps of *éco-guards*, who will preferably be recruited from adjacent communities. Managerial, technical and park warden staff will be trained together with other stakeholders, such as CSOs members, community leaders and biodiversity-friendly businesses. The project will engage a consultancy outfit to deliver targeted on-the-job training to new and existing PA professionals/staff and others. The PoWPA e-training modules (available in French<sup>28</sup>) may be used as basic training material. Where necessary, office/working space will be renovated and equipped, based on a realistic needs assessments. Systems will be installed and their usage mainstreamed into daily PA management and oversight routine (GIS, databases, webportals etc.). Information on PA management will be made available to the public through various means and on a regular basis. All the necessary steps for effectively establishing (i.e.

<sup>27</sup> A protected area gap assessment is an assessment of the degree to which the biodiversity in a country is adequately protected, through protected areas and other conserved areas. Further guidance can be obtained from: Dudley & Parish (2006). *Closing the Gap. Creating Ecologically Representative Protected Area Systems: A Guide to Conducting the Gap Assessments of Protected Area Systems for the CBD*. CBD Secretariat, Montreal, Technical Series no. 24, vi + 108 pages. ([Link](#))

<sup>28</sup> <http://www.cbd.int/protected/e-learning/>

gazetting) new PAs will be completed, building up from the achievements of baseline interventions (refer to Table 1 for a reference to target sites, to the ‘Annex to the PIF’ for more detail). These key steps are: (i) biodiversity, socio-economic and land tenure surveys; (ii) drafting of legal texts and due consultations; and (iii) demarcation of sites on the ground. The actual approval of proposed decrees will be the government’s responsibility (not the project’s). Finally, the project will facilitate a process aimed at improving the financial sustainability of the expanded PA system by assessing the funding gap and taking steps to reduce it over the years. This will also include improving the revenue generation aspect of PA finance. The process will engage government, donors, private sector and stakeholder communities in gradually making commitments on shared responsibility for managing the system and contributing to it, including after the project’s end.

### **Component 2: Site level PA operationalisation**

Under this Component, the project will also work on four main fronts: (1) PA management strengthening at the site level; (2) improving resource use governance on sites and around them; (3) exploring the contribution of tourism to conservation also at site level; and (4) coalescing support for a PA-friendly livelihoods programme and rolling it out. This will imply the following:

The project will work at site level to ensure that PA strengthening action will be implemented both in the existing PA (Mohéli Marine Park), but also the new/proposed PAs and MPAs (Karthala Forest<sup>29</sup>, Mohéli Rainforest, Montagnes d’Anjouan / Mont Ntringui, Moya Community Forest Reserve, Community Reserve Ilôt de Ndroudé, Zone du Coelacanth / Baie des Dauphins, Bimbini Peninsula / Ilôt de la Selle). The aim is to improve PA management effectiveness at site level. This work needs not wait for the full gazetting of new sites. Also, the project will work with the partners that are already making progress in supporting PA management in different ways on these sites (e.g. IFAD, AFD/Bristol/Durell, IOC, FAO, GEF SGP and several local CSOs such as APG-Association for the Protection of the Gombessa, stakeholders of the OCB project, among others). The GEF intervention will be catalytic in this respect. In a first instance, the work at hand may include the creation or refurbishing of essential infrastructure for PA operations, the provision of equipment and deployment of staff to sites (the latter in conjunction with activities under Output 1.1). It will also include the drafting of and participatory negotiations on management plans for the sites. In this sense, the project will support PA governance structures and PA surveillance, but GEF funding will be sustainably withdrawn as these structures become operational and better funded. Other types of plans will also be developed (e.g. operational plans, budgets and protocols). More importantly, the project will facilitate the implementation and monitoring of these plans. Based on ecological assessments, mapping and zoning, the project will initiate ecosystem management actions with a long-term perspective. Areas requiring strict protection may have access restricted. Critical areas that are degraded or invaded with IAS will be gradually restored. These actions will be complemented with the enforcement of rules and regulations on access to certain areas and on resource use; *eco-guards* will play a role in it. Cooperative agreements with local CSOs for PA co-management will be supported. The GEF will also finance regular ecological monitoring of sites, unless other partners are providing these services. Furthermore, as part of the work on co-management, the project will establish effective mechanisms for mediation and conflict resolution in target PAs/MPAs as an attempt to clarify land tenure rights for terrestrial PAs and seascape use-rights for MPAs. On the development of eco-tourism, the project will engage with PA co-managing communities, government and investors to explore possibilities of high-end eco-tourism initiatives linked to PAs, as this will maximize the potential income per visiting guest. Finally, a livelihoods programme will be developed and implemented with PA/MPA adjacent communities in support to collaborative PA management efforts by these stakeholders. The GEF project’s role in such programme will be catalytic vis-à-vis other partners, given that several existing initiatives are already working on livelihoods themes.

26. **Global benefits.** GEF funding will contribute in an incremental manner to removing the barriers to establishing a PA/MPA system that is effectively managed and representative of Comoros’ biodiversity. This system will count on terrestrial PAs that protect unique closed and open rainforest ecosystems, montane and low-lying dry vegetation, as well as mangroves patches in all of islands that compose the Union of Comoros. At least 38,145 ha of terrestrial habitats with high conservation value will be protected. The project will also help create MPAs that protect the critically endangered coelacanth (*Latimeria chalumnae*), but also beaches, which are nesting grounds to threatened marine turtles, mudflats and coral reefs that harbour important marine biodiversity typical of the Indian Ocean biodiversity hotspot. The entire expanded PA/MPA estate will extend over at least 80-81,000 ha of land/seascapes in Comoros. Within these areas, a number of globally important species will enjoy increased protection as a result of the project: e.g. the dugong, the Mongoose lemur *Eulemur mongoz*, the Comoro black flying fox (*Pteropus livingstonii*) and the Comoro Rousette (*Rousettus obliviosus*).

### **B.3. 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):**

27. **Socio-economic benefits.** This project will bring significant benefits at the national and local levels. The benefits to local communities brought by improved conservation of ecosystems and biodiversity in their environment include food and water provision security, the retention of arable land, secure access to safe, clean and sanitary public recreation areas, opportunities for livelihood diversification through increased tourism, and maintenance of coastal ecosystems, i.e. reefs and mangroves, which contribute to protecting the shoreline in the event of a natural disaster. The management rules for protected areas will allow the local communities, who bear the opportunity costs related to the adoption of sustainable practices and who share management responsibilities, to benefit

<sup>29</sup> Including the two community reserves within it (Hantsogoma and Ngubadju).

from some exclusive resource use rights (besides benefiting from ecosystem services which may be less tangible in the short term). This should give them adequate incentives to participate in the conservation / sustainable use of the natural resources and in their surveillance. Fishermen will benefit from the protection of fish critical habitats, from a better management of the fish populations that sustain the fisheries, and from an identification of fishing areas for their exclusive use, thus reducing potential social tensions. Tourism entrepreneurs will benefit from the protection of assets, i.e. landscapes and resources, which they market.

28. At the national level, indirect use benefits brought by an improved conservation of ecosystems and species will include stabilisation of ecosystem services and climate, mitigation of natural disasters including floods, carbon sequestration (though not necessarily marketable carbon) and soil nutrient retention. Beyond biodiversity values, the non-use benefits of a well-developed PA system will contribute to the preservation of the Comorian community values, of Comorian unique landscapes and of associated cultural heritage.

29. **Gender dimension.** In the Comorian society, of Islamic religion, women have an unusually privileged place since they inherit of all the family land on Grand Comoro and part of the land in the other two islands, and they own the houses. In addition, women are more likely to obtain a micro-credit than men, thanks to their tradition of savings and better reimbursement rates. However, women face many difficulties in employment: only 43% of women work, often in more precarious jobs, their share of the wage is much lower and most of their jobs are in agriculture, on family plots. The project will ensure that its objectives and activities are specifically promoted to women and that they perceive clearly their own benefits to participate. The project will involve women in all capacity building activities and strengthen their role in the community's development. Project activities will take into account women's specific capacities and tasks and aim to alleviate the burden of their chores. The project will adopt gender specific indicators to monitor women's participation in all activities as well as their perception of the project's impact on their daily lives.

**B.4 INDICATE RISKS, INCLUDING CLIMATE CHANGE RISKS THAT MIGHT PREVENT THE PROJECT OBJECTIVES FROM BEING ACHIEVED, AND IF POSSIBLE, PROPOSE MEASURES THAT ADDRESS THESE RISKS TO BE FURTHER DEVELOPED DURING THE PROJECT DESIGN:**

<b>Risk</b>	<b>Rating</b>	<b>Risk Management Strategy</b>
Land tenure insecurity (due to the superposition of civil, religious and traditional laws) in areas designated for the creation of protected areas may become a barrier to the actual establishment and operationalisation of these areas and for the adoption of new, sustainable practices.	H	Tackling the land tenure problem at the level of regulations may require solutions at systemic level that go beyond what the project is designed to impact on. However, the project will support the implementation of the forestry law, which provides some useful guidelines on land-use and tenure. The project will equally invest in the participation of all relevant stakeholders in the discussion PA gazettal decrees and in the development and implementation of agreements for co-management of natural resources. Furthermore, a specific project output (2.2) is designed to bring clarity on land tenure issues with respect to terrestrial PAs and to introduce effective mechanisms for mediation and conflict resolution in target PAs.
Institutional capacities are inadequate to manage the protected area system, especially after the expansion of the estate. Constraints of hiring in the public service do not allow the hiring of the staff required to the institutional development envisaged in the project.	H	The project provides for the development of national capacities in the management of protected areas, including the emergence of a more effective PA management institution. This will also involve the development of skills of its staff, of PA site managers, relevant ministries and agencies, local governments of riparian communes, local CSOs representative of riparian communities, and (if applicable) concerned tourism operators. All these partners will provide a network of trained actors able to participate in the process of co-management of protected areas advocated in the Comoros. Furthermore, the project will engage in an institutional restructuring process in order to boost national capacity. (Outputs 1.1 and 1.2)
The absence of reliable financial flows to the PA system undermines the effectiveness of the management system of protected PAs beyond the duration of the project intervention	H	The project will establish an enabling framework for the government, donors, NGOs and the private sector to invest according to a focused and coherent plan to maintain a financial flow that will ensure the viability of the PA system beyond the lifetime of the project (Output 1.4)
The structures established for the management of protected areas are not supported by the Island governments who constrain their autonomy of management. Village representatives in the co-management committees are not playing their role in a transparent manner and are not conducive to an effective participation of communities in decisions relating to the management of the protected area.	M	The project provides for capacity development and awareness of village communities on the role assigned to them in co-managing a protected area and the benefits provided by ecosystem services in and around effectively managed protected areas (Output 1.2). The project will also support the introduction of transparent mechanisms for the election of village representatives and for community and resource users' consultation in the context of PAs and land resources management in the surrounding ecosystems. Furthermore, effective mechanisms for mediation and conflict resolution will be put in place and made operational (Output 2.2). These allow villagers a voice and PA managers recourse options for dealing with tensions arising from resource and land use change arising from the establishment of PAs and MPAs.
The socio-economic context is unstable and not conducive to the emergence of environmental awareness within the population that is not willing to change their behaviour and unsustainable use of natural resources.	L	The project will raise the awareness of local communities on the benefits associated with the conservation of biodiversity and ecosystem services through environmental education, demonstration of new practices and associated benefits. It will support the development of a livelihoods programmed linked to PA management (Output 2.4) and ecotourism for the benefit of these communities (Output 2.3).

**B.5. IDENTIFY KEY STAKEHOLDERS INVOLVED IN THE PROJECT INCLUDING THE PRIVATE SECTOR, CIVIL SOCIETY ORGANIZATIONS, LOCAL AND INDIGENOUS COMMUNITIES, AND THEIR RESPECTIVE ROLES, AS APPLICABLE:**

30. The project will be executed by General Directorate of Environment and Forests (DGEFF) of the Ministry of Production, Energy, Environment, Industry and Handicraft (MPEEIH). Their role is to function as the national entity designated by UNDP to assume responsibility for delivering on the project objective and outcomes, and the entity accountable to UNDP for the use of funds. During implementation a number of other stakeholders will be involved in the project. These key stakeholders and their roles are:

Stakeholder	Relevant roles and responsibilities
<b>Communities, associations, NGOs</b>	
Local communities and representatives	<ul style="list-style-type: none"> <li>▪ Key stakeholders and beneficiaries;</li> <li>▪ Active participation in the identification and development of income generating activities including profitable ecotourism activities to the benefit of local communities;</li> <li>▪ Permanent members (representatives) of the teams during field missions;</li> <li>▪ Contribution to planning and implementing eco-tourism activities in PAs/MPAs;</li> <li>▪ Participation in monitoring and participatory research programs on biodiversity and in the assessment of the impact of the project interventions.</li> </ul>
Development associations / Ulanga / and ENGOs such as APG, Comoflora, Action Comores, AIDE, and others	<ul style="list-style-type: none"> <li>▪ Participation in monitoring and participatory research programs on biodiversity, and in the assessment of the impact of the project interventions;</li> <li>▪ Contribution to community mobilization.</li> </ul>
<b>Ministries and Departments</b>	
General Directorate of Environment and Forests (GDEF) of the Ministry of Production, Energy, Environment, Industry and Handicraft (MPEEIH)	<ul style="list-style-type: none"> <li>▪ National mandate over natural resources conservation and sustainable management and for the overall coordination and management of the PA system.</li> <li>▪ As the implementing agency of the project, accountable for the project results, in collaboration with counterparts at the island level, will designate a National Project Director among its members and chair the Steering Committee, and will allocate appropriate work premises for the project management team, including water and electricity.</li> <li>▪ Leadership for institutional and legislative reforms related to PA management and PA agency;</li> <li>▪ Contribution to project monitoring and evaluation, responsible for technical and financial reporting to UNDP and for integrating lessons learned in the knowledge sharing networks.</li> </ul>
Island Directorates in charge of Environment	<ul style="list-style-type: none"> <li>▪ Members of the Project Steering Committee, of the Island Technical Units, and contact between the Island Technical Units and the authorities of the Autonomous Islands;</li> <li>▪ Mobilization of the Country's in-kind contributions.</li> </ul>
Department of Planning, Monitoring and Evaluation of the V-P in charge of MPEEIH	<ul style="list-style-type: none"> <li>▪ Responsible for reviewing the project technical, progress and evaluation reports;</li> <li>▪ Participation to the elaboration and implementation of the monitoring and evaluation plan, including a contribution to the preparation of the annual Project Implementation Report.</li> </ul>
National Tourism Board and Island representatives	<ul style="list-style-type: none"> <li>▪ Members of the Project Steering Committee and of the Island Technical Units;</li> <li>▪ Will contribute to plan and implement eco-tourism activities in PAs/MPAs.</li> </ul>
National Directorate of Civil Defence	<ul style="list-style-type: none"> <li>▪ Participation to surveillance of protected areas and enforcement of laws and regulations.</li> </ul>
<b>Institutions and Partners</b>	
Comoros University with the collaboration of the University of Torino	<ul style="list-style-type: none"> <li>▪ Member of the Steering Committee;</li> <li>▪ Development of programs / training modules in biodiversity conservation, adaptive management of PAs, and integration into the university curriculum;</li> <li>▪ Development of participatory research programs on biodiversity;</li> <li>▪ Participation in the assessment of the effectiveness of PA management and of the impact of the project interventions;</li> <li>▪ Contribution to the establishment of a collection of documents and a national platform for sharing knowledge.</li> </ul>
National Scientific Research Institutions: CNDRS, INRAPE	<ul style="list-style-type: none"> <li>▪ Participation in the development and implementation of monitoring programs for biodiversity, in the assessment of the effectiveness of protected areas management and in the assessment of the impact of the project interventions.</li> </ul>
Town councils / communes	<ul style="list-style-type: none"> <li>▪ Participation in planning and implementing interventions at the local level, including the selection of intervention sites at the local and community levels;</li> <li>▪ Participation in conflict management in the context of the implementation of the project.</li> </ul>
Tourism operators/ investors	<ul style="list-style-type: none"> <li>▪ Contribution to the planning and implementing ecotourism activities.</li> </ul>

#### **B.6. OUTLINE THE COORDINATION WITH OTHER RELATED INITIATIVES:**

31. First and foremost, the project will coordinate with on-going UNDP financed interventions which are part of the Country Programme: e.g. the OCB project, the CNDD project and other related initiatives being developed. The project will also coordinate its action with GEF projects, in particular those implemented by UNDP and the relevant SGP ones – e.g. on NRM related themes and which helped shape some of the proposals behind this PIF, e.g. APG's work on the establishment of the Coelacanth zone. Close coordination and collaboration will be sought with the UNDP-GEF/LDCF projects "Adapting water resource management in the Comoros to expected climate change" (on-going) and "Enhancing adaptive capacity and resilience to climate change in the agriculture sector in Comoros" (under development). These are particularly important to the extent that they relate to land-uses (agriculture) and ecosystem services (water yields). Where sites coincide, synergies will be further developed.

32. There are on-going discussion with IFAD on their National Program for Sustainable Human Development and the on-going

GEF-IFAD BD LD MSP (*Integrated Ecological Planning and SLM in Coastal Ecosystems in the Comoros*). The MSP design foresees support to: (i) the legal declaration of new PAs (though exact sites were not identified in the IFAD project document, only suggested); (ii) PA management planning; and (iii) a few modest interventions on PA operationalisation. These interventions will not in any way duplicate what is being proposed under this project, which has much more ambitious targets with respect to PAs. The mentioned GEF-IFAD MSP also includes the preparation of integrated ecosystem management (IEM) plans for Dziani-Boundouni Lake (30 ha, Moheli), Bimbini/La Selle islet (8 ha, Anjouan), La Grille Forest (440 ha, Grand Comoro), and sustainable land management over 1660 ha. The proposed activities for the Bimbini Peninsula under this project cover a much larger area and go beyond what the IEM plan under the IFAD-GEF project can offer. Yet, what this present project proposes will certainly build on the achievements of the IFAD project with respect to PAs.

33. Close coordination and collaboration will also be sought with initiatives financed by partners that made initial offers on co-financing to this project. The development of the project's activities during the PPG will be done in full consultation with those partners. These include e.g. AFD, which has an office in Comoros and is financing: (i) the Djando project on reforestation and protection of waterways on Moheli Island; and (ii) initiatives for operationalising the Moheli Marine Park, where work is just initiating on reconciling conservation of natural resources with the development of economic activities and income generation. This will be particularly relevant for Component 2 activities of this project. AFD is also co-funding the ECDD project, together with Darwin Initiative (UK), Bristol Zoo and Durrell Wildlife Conservation Trust. This project will benefit from: (i) the system for monitoring terrestrial biodiversity based on high resolution GIS maps; (ii) any relevant ecological studies and inventories conducted with respect to targeted PAs.

34. Another key co-financier is the Indian Ocean Commission, which is investing in sustainable management of coastal areas with EC funding and through a regional initiative. This project also will draw on scientific production that has a direct application to conservation, which includes some of the work being financed by the EC and the University of Turin as briefly described in the 'baseline investment analysis' for this project. Finally, coordination and collaboration between this project and other interventions will include related initiatives by e.g. FAO (on forests and fisheries), but equally on the fight against IAS and climate change, to the extent that they relate to project activities.

### **C. DESCRIBE THE GEF AGENCY'S COMPARATIVE ADVANTAGE TO IMPLEMENT THIS PROJECT:**

35. 'Protected Areas' are one of UNDP's signature programmes and the agency has a large portfolio of PA projects across Africa dealing with PA institutional and management strengthening and PA network expansion, and implementing strategies attuned to the African reality.

36. The comparative advantage of UNDP Comoros takes essence in its work in environment and sustainable development, which aims in particular at developing capacities for environmental management at all levels (institutional, systemic and individual) through relevant institutions and CBOs in Comoros. The establishment of the national network of protected areas was initiated under the UNDP project "*Biodiversity Conservation and Sustainable Development in the Comoros*" resulting in the creation of Moheli's Marine Park. This preparation for the creation of the national network of protected areas has continued through the UNDP OCB project. The results of the OCB project have enabled the country to provide the basis for the creation of the national network of *protected areas including the development of sustainable development plans* of the 33 villages surrounding future protected areas, the delineation of protected areas, validation of decrees on the establishment of protected areas in the three islands, and conducting public hearings regarding the creation of protected areas. UNDP support in the field of biodiversity conservation was also pursued through continued support to the management of Moheli's Marine Park. Through the Small Grant Program, UNDP also supported a number of community initiatives for pilot micro-projects aimed at providing alternative sustainable income to the exploitation of biodiversity.

37. To establish a forum for dialogue, reflection and response coordination with respect to sustainable development, UNDP Comoros is supporting the establishment of a National Sustainable Development Commission, which would play this role of interface. In the same way, UNDP's support to the development of a National Sustainable Development Strategy ensures the availability of a coherent framework common to all to develop and implement innovative initiatives to meet the challenges of development and better direct sectoral funding.

38. Finally, UNDP is supporting several SIDS throughout the world face their cross-cutting challenges with respect to natural resource management, population pressure, a changing climate and how to balance all this with the need to provide protection to unique biodiversity assets. Among those in Africa, other SIDS have also recently prioritised GEF PA projects implemented through UNDP. These include Cape Verde, Guinea-Bissau, Mauritius, Seychelles and Madagascar. The agency is hence developing an relevant experience on this topic.

#### **C.1 INDICATE THE CO-FINANCING AMOUNT THE GEF AGENCY IS BRINGING TO THE PROJECT:**

39. UNDP will provide \$500,000 as co-financing to this project in the form of a grant. These funds will be managed under the same budgetary award as the project. UNDP and the government will leverage the co-financing necessary for meeting the minimum targets proposed under this PIF.

#### **C.2 HOW DOES THE PROJECT FIT INTO THE GEF AGENCY'S PROGRAM (REFLECTED IN DOCUMENTS SUCH AS UNDAF, CAS, ETC.) AND STAFF CAPACITY IN THE COUNTRY TO FOLLOW UP PROJECT IMPLEMENTATION:**

40. The project is in line with three of the four priority areas of cooperation within the UNDAF 2008-2014 which are: i) Sustainable economic growth and fight against poverty; ii) Democratic governance and social cohesion, and iii) Environment and Sustainable Development. Activities and results that will be developed under this project are also fully consistent with the UNDAF outcome 1: “By 2014, revenues, jobs, decent work and security food of the poor and vulnerable people are improved”; and the UNDAF outcome 4: “By 2014, ecosystem integrity is preserved and eco-services they provide are valued for the benefit of the population and vulnerability to natural and climate hazards is significantly reduced in a sustainable development perspective”.

41. In addition, this project is in line with the Country Cooperation Framework 2008-2012, which draws on UNDAF Outcomes, as well as its action plan (CPAP). These focus on three priority areas: (i) poverty reduction strategy, especially in the field of the result area A1: promoting inclusive growth, gender equality and the MDGs; (ii) Democratic governance, particularly the result areas B1: encourage inclusive participation, and B2: promoting governance institutions more responsive and accountable, and (iv) environment and sustainable development, through its result areas D1: integration of environmental and energy concerns in the development and implementation of policies, strategies and programmes, and D4: improve access to environmental and energy services through strengthening national capacities in providing services to the poor.

42. Through several interventions in different topics of the Country Cooperation Framework, UNDP was able to develop a genuine experience in the Country Office in the areas of environmental management, biodiversity, energy, participatory local governance, combating poverty, financial inclusion and integration of gender into national programs and projects, among others. This experience is based on a solid team with an Eco-Advisor, a program analyst specialist in democratic governance and decentralization, three program associates specialists in fight against poverty, environmental management, capacity building and integration of major themes such as environment.

43. The UNDP Country Office is supported by a French speaking Regional Technical Advisor based at the UNDP-GEF Regional Coordination Unit for Africa, in Pretoria. Furthermore, the global network of senior technical advisers is able to provide the technical supervision and leadership required to ensure that programs in the field get maximum political impact


**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 template. For SGP, use this OPF endorsement letter).

NAME	POSITION	MINISTRY	DATE (MM/dd/yyyy)
Ali Mohamed Solihi	Permanent Secretary	Vice-Presidency in charge of the Environment	August 1, 2012

**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 project identification and preparation.**

Agency Coordinator, Agency name	Signature	DATE (MM/dd/yyyy)	Project Contact Person	Telephone	Email Address
Yannick Glemarec, UNDP/GEF Executive Coordinator		August 8, 2012	Fabiana Issler, Regional Technical Advisor for Biodiversity, Africa, UNDP GEF, EBD	+27-12-3548182	<a href="mailto:fabiana.issler@undp.org">fabiana.issler@undp.org</a>

**ANNEX TO THE PIF  
DESCRIPTION OF THE PROTECTED AREA ESTATE**

**Moheli’s Marine Park.** The Marine Park of Moheli, the first protected area in the Comoros, was established in April 2001 under the UNDP-GEF project "Biodiversity Conservation and Sustainable Development in the Comoros' (Decree No. 01-053/CE). The southern area of Moheli including Nioumachoua islets covering a surface area of 40,400 ha is classified as a national park following a co-management approach with local village communities.

The beautiful landscapes of the park include different types of habitats: coral and volcanic sand and pebble beaches, mangroves, large islets, and fringing coral reefs, all of which are great assets for recreation and tourism. The site is important for the reproduction of endangered migratory



species such as marine turtles. The park includes adjacent land areas including the crater lake Dziani-Boundouni classified Ramsar site which hosts a high diversity of waterfowl, and the forest on the lake's watershed is the habitat of endangered species, including the mongoz lemur (*Eulemur mongoz*) endemic to Madagascar-Comoros.

In ten years, progress was made in improving the management with the effective participation of communities, which is reflected by healthy coral reefs, the stability of 91 ha of mangrove preserved over the 108 ha of mangrove in the Comoros, the confirmed presence of four dugongs, the increase in annual sea turtle hauling out onto beaches from 15,000 in 1998 to 25,000 today, which makes it the most important sea turtle nesting area near a human population.

**Karthala forest.** Located in the south center of Grand Comoro, the Karthala is an active volcano renowned for its "caldera" of three kilometers in diameter. On the western and southern slopes above 1200 m altitude, the Karthala forest type includes rainforest, shrubby mountain and cloud forest. The protected area is situated at an altitude between 800 and 2361 m and covers an area of 26,790 ha. The zoning is divided into a multiple-use eco-development zone (8040 ha) and a conservation area 18,750 ha integrating the rainforest and arborescent heather (*Philippia* spp.) savanna. The latter is divided into a core zone (8864 ha), a buffer zone (6790 ha) and a controlled-use area (3096 ha) which includes the caldera of the volcano.

The Karthala forest is home to several endemic and/or endangered flora and fauna species, some of which have a distribution limited to a small area of the Karthala. This site has been identified as an Alliance for Zero Extinction (AZE) site due to the presence of Critically Endangered or Endangered species with a limited range, as a Ramsar site and as an Important Bird Area. It includes five endemic endangered and vulnerable bird species, Mount Karthala White-eye (*Zosterops mouroiensis*), Grand Comoro Scops-Owl (*Otus pauliani*), Grand Comoro Flycatcher (*Humblotia flavirostris*), Grand Comoro Drongo (*Dicrurus fuscipennis*) and Mayotte Drongo (*Dicrurus waldenii*), endemic subspecies as the Comoro Blue-Pigeon (*Alectroenas sanzini*) very rare and threatened by hunting, and two endangered species: the Black Parrot (*Coracopsis nigra*) living between 800 m and 900 m altitude and the Comoro Olive-Pigeon (*Columba pollenii*) to 1400 m altitude. All bird species restricted to Mount Karthala are considered threatened, and, consequently, the forest ranks highly amongst the key forests for threatened birds in Africa. Mammals include the island-endemic species<sup>30</sup> Griveaud's long-fingered bat (*Miniopterus griveaudi*) and the vulnerable Comoro Rousette (*Rousettus obliviosus*). Reptiles include 2 island-endemic species (*Phelsuma comorensis*, *Furcifer cephalolepis*) and 4 Comoro-endemic species (*Phelsuma v-nigra*, *Mabuya comorensis*, *Lycodyras sanctijohannis*, *Typhlops comorensis*). Lepidoptera include 9 island-endemic species, 2 Comoro-endemic species, and three endangered: *Papilio aristophontes*, *Graphium levassori*, *Amauris comorana*. There are also several orchid species, endemic tree ferns and endemic dwarf palms on the western slope. *Khaya comorensis*, a threatened endemic tree species that provides precious wood is still present in the high altitude forest of the Karthala, although it has become very rare.

The major threat is underplanting followed by complete clearance for agriculture. The lower limit of intact forest is retreating upwards as clearance proceeds for agricultural expansion. In the north-east, cultivation reaches at least 1,400 m and the forests have been entirely cleared. The surroundings are mostly cultivated, except to the north, along the island's axis, where grassland dominates. Large trees are selectively removed for making pirogues. Secondary forests are dominated by the invasive strawberry guava *Psidium cattleianum*, and other exotic plant species are increasing. In addition to agriculture in the lower areas the site is used for logging, cattle-grazing and limited collection of non-timber forest products. Commercial logging is very active on a 5,000 ha concession on the south-western slopes. Previous logging activity elsewhere has been abandoned, but logged areas have been taken over by agriculture. Management recommendations include the control of exotic invasive species and the reforestation of the grasslands of the central ridge of the island.

**Massif of Mount Ntringui (Anjouan).** The total surface area of the protected area is 3813 ha, representing 8.9% of the island area. This area includes a 2540 ha conservation area and a 1273 ha controlled-use area. This site has been identified as an Alliance for Zero Extinction (AZE) site due to it containing a Critically Endangered or Endangered species with a limited range, as a Ramsar site and as an Important Bird Area.

The remaining forests of Anjouan located on steep and inaccessible slopes and including those of Mount Ntringui present a high interest in terms of biodiversity because they hold endemic and threatened species such as the critically endangered Anjouan Scops-owl (*Otus capnodes*), a great diversity in orchids and spike moss, arborescent ferns and heath (*Philippia* spp.), two giant bat species endemic to the Comoros: the Comoro Black Flying Fox (*Pteropus livingstonii*) and the Seychelles Flying Fox (*Pteropus seychellensis* var. *comorensis*), and several other bird, fish and reptile species. The Mongoz lemur (*Eulemur mongoz*) although rare in Madagascar, is widespread in Anjouan. The Dzilandzé Lake, on top of mountain ridges in the center of Anjouan, is the largest lake of the island. The lake and its surroundings provide habitat for grebes, freshwater fish and several other forest species. Until now, these sites have been preserved because of their limited accessibility.

The forests and native wildlife are currently under pressure from deforestation and expansion of agricultural and grazing land, lack of management, precious wood exploitation and the introduction of exotic species, the most important threat being deforestation which follows the same progression with the same causes as elsewhere in the country: underplanting (removing undergrowth and preventing regeneration) followed by clearance for open field cultivation. Charcoal requirements are high in Anjouan, particularly for distillation of ylang-ylang. New roads and tracks have facilitated forest exploitation by easing accessibility to the forest. The severe depletion of natural resources on Anjouan has resulted in emigration to Moheli, thus contributing to accelerate degradation there.

**Moheli's rainforest.** The total surface area of the protected area is 6142 ha, representing 29% of the island area. The zoning includes a 2325 ha multiple-use eco-development zone and a 3817 ha conservation area divided into a core zone (1907 ha) and a buffer zone (1910 ha). The evergreen tropical rainforest, the same type as that found on the Karthala, is located on the central ridge of the Mlédjélé to the west and on its south-facing slopes and on the crest of the Mze Kukule. The forested area comprises a low forest dominated by large trees on ridges and a multi-stratum forest on the slopes, in which are rare precious wood species such as *Weinmania comorensis* and *Khaya comorensis*. This forest is classified as globally important for bird conservation (IBA) and is identified as an AZE site due to it containing critically endangered or endangered species with a limited range. Moheli supports a unique forest bird community, including two island-endemic species: the critically endangered Moheli Scops-owl (*Otus moheliensis*), and the Moheli Warbler (*Nesillas mariae*). Six other restricted-range species and one seabird also breed, of which one, the Comoro Olive-Pigeon (*Columba pollenii*), is near-threatened. Twelve island-endemic and seven Comoro-endemic subspecies are also present, along with the endangered, but non-endemic, Reunion Harrier (*Circus maillardii*). Most of the threatened and restricted-range species are associated with the intact forest, although all have been seen outside it. The forest is also home to endemic and threatened mammal species like the endangered Comoro Black Flying Fox (*Pteropus livingstonii*), the vulnerable Comoro Rousette (*Rousettus obliviosus*), and the vulnerable lemur *Eulemur mongoz* (introduced but important population on Moheli). Reptiles include six Comoro-endemic species: *Lycodyras sanctijohannis*, *Paroedura sanctijohannis*, *Phelsuma v-nigra*, *Amphiglossus johanna*, *Mabuya comorensis*, *Typhlops comorensis*. Butterflies include one Moheli-endemic and four Comoro-endemic species (three shared only with Ndzuani).

<sup>30</sup> Juste, J. 2008. *Miniopterus griveaudi*. In: IUCN 2011. IUCN Red List of Threatened Species. Version 2011.2. <[www.iucnredlist.org](http://www.iucnredlist.org)>.

The main threat to native wildlife is continuing conversion of the forest to agriculture, exacerbated by the increasing population, with immigrants arriving from the neighbouring island of Anjouan. Forest exploitation is concentrated at the eastern and western extremities of the forested area, and also above Fomboni. Introduced rats are abundant.

It has been proposed to classify Moheli Island, including its islets, as a UNESCO biosphere reserve merging the terrestrial and marine protected areas to cover an area of 66,560 ha including a core zone of 4,406 ha, a buffer zone of 47,770 ha and a peripheral area of 14,383 ha.

**Coelacanth zone (Grand Comoro).** Potential protected area. This site located on the southwest coast of Grand Comoro has no status but has long been identified as a priority area for the establishment of a protected area to protect the coelacanth population, its habitat, and the adjacent *Baie des Dauphins* which is highly frequented by whales and dolphins. The global importance of this site is first related to the volcanic caves located near the coast that are home to the famous coelacanth (*Latimeria chalumnae*), an endangered living fossil of worldwide scientific interest. The value of this site is also linked to its strong frequentation by whales and dolphins. In the *Baie des Dauphins*, the species most commonly seen are the Spinner Dolphin (*Stenella longirostris*), the Common Bottlenose Dolphin (*Tursiops truncatus*) and the Spotted Pantropical Dolphin (*Stenella attenuata*). Available data indicate the presence of at least 12 whale species in comoran waters, including the Humpback Whale (*Megaptera novaeangliae*), a Beaked whale (*Mesoplodon* sp.), the Killer Whale (*Orcinus orca*), the Southern Right Whale (*Eubalaena australis*) and the Bryde's Whale (*Balaenoptera edeni*). The Pygmy Killer Whale (*Feresa attenuata*) was observed in large groups of up to 500 individuals.

The coastal area and resources are protected by the initiatives of an association that brings together representatives of the 12 villages in the Coelacanth zone, the Association for the Protection of the *Gombessa* (APG), which was created in 1995 and whose activities have been continuing to date, mostly through the voluntary involvement of the association's members. The APG aims at protecting the coelacanth whose main threat is fishing with bottom line, through educating fishers, promoting alternative economic activities and improving fishing and processing facilities. A Center for Information, Education, Valorisation and Conservation of the Coelacanth and its Marine Environment in the Comoros was recently inaugurated with the mission to collect, process and disseminate information about the coelacanth and its environment, educate, promote ecotourism focused on the coelacanth, promote environmentally friendly fishing practices, and participatory natural resource conservation.

**Hantsogoma community forest reserve (Grand Comoro)** covers a surface area of 946.4 ha within the Karthala protected area and includes a mosaic of dry forest and wet evergreen forest around the lake Hantsogoma which is a small permanent crater lake located at 1000 m altitude, at the northern foot of the Karthala. This site stands out in terms of biodiversity by its richness in orchids: 37 orchid species were recorded in this site. The critically endangered Grand Comoro Scops-Owl (*Otus pauliani*) was observed in this area in 2009.

**Ngnubadju community forest reserve (Grand Comoro)** covers 240.6 ha of a mosaic of gallery and wet evergreen forest within the Karthala protected area. The Ngnubadju forest is one of the last vestiges of the lowland forest now disappeared from other slopes of the Karthala and is the best-preserved stock of the rare and endemic *Khaya comorensis* in all the Comoro Islands, which represents 15% of the floristic composition of this site. Another area where is the old Boboni sawmill must be integrated into the current reserve.

**Moya community forest reserve (Anjouan).** An ongoing project is setting up a new community reserve (size to be defined) in the Moya forest zone, on the southwestern coast of Anjouan. The Moya forest area is an important zone for all the key endangered species on Anjouan including Anjouan Scops Owl (*Otus capnodes*), Comoro Black Flying Fox (*Pteropus livingstonii*), Mongoz lemur (*Eulemur mongoz*) which distribution is mostly associated with remnant natural forests. Ongoing biodiversity studies have shown the presence of 4950 individuals of Anjouan Scops-owl, mostly in natural forests but also in degraded ones. Forests are threatened by agricultural expansion and timber removal for construction/ planks.

**Ndroudé community reserve (Grand Comoro).** A small project supported by the GEF SGP (26,111 US\$ - Dec. 2011 to Dec. 2012) and led by the Association for Ndroudé's cultural and economic development plans to establish a community reserve in Ndroudé (northeast of Grand Comoro) and l'îlot aux Tortues for the protection of sea turtles and development of ecotourism. L'îlot aux Tortues, located approx. 300 m from Ndroudé's shore has a surface area of one ha and is surrounded by coral reefs and seagrasses which are reportedly used by the vulnerable Dugong (*Dugong dugon*) and the endangered Green Turtle (*Chelonia mydas*) as a feeding site.

**Bimbini peninsula (Anjouan).** Potential protected area. The marine and coastal area of the Bimbini Peninsula in Anjouan is home to a rich biodiversity, both at the specific and ecosystem levels. Ecosystems include mangroves, a coastal barrier-reef complex<sup>31</sup>, beaches once used by turtles as nesting sites, seagrass beds and Pomoni coastal marsh. Bimbini mangrove is a strip of fragmented mangroves that stretches over 7 km of the southwest coast and covering an 8 ha area. The coastal barrier-reef complex that runs along the entire coast on the southern side of the peninsula includes an enclosed lagoon and covers a 15.75 km<sup>2</sup> area. Coral colonies are dominated by *Favia* and *Favites* (massive), *Acropora* (branching), *Turbinaria* and *Montipora* (foliated), and *Platygyra* and *Leptoria* (meandering) types. Seagrass beds are developed and provide habitat and feeding sites for many species, including the endangered Green Turtle (*Chelonia mydas*), the critically endangered Leatherback Turtle (*Dermochelys coriacea*) and the vulnerable Dugong (*Dugong dugon*).

**Important Bird Areas (IBAs):** 4 IBAs were designated based on assessments conducted in 2001<sup>32</sup>: Mount Karthala (21,000 ha), La Grille (2,600 ha), Moheli highlands (4,000 ha), and Anjouan highlands (6,850 ha). These sites include 9 globally threatened bird species, of which 3 are critically endangered, 10 endemic species, 52 migratory species, and numerous restricted-range species. All restricted-range species occur in the forest, largely in the uplands where there is forest remaining, apart from *Zosterops mouroniensis* which is now confined to the higher-altitude heath zone of Mt Karthala on Grand Comoro. Colonizing ('pioneer') forest on recent lava-flows on this mountain may be an important habitat for some species, e.g. *Otus pauliani*. The distribution of species across the islands is not uniform, with each island having its own endemic species (five on Grand Comoro, one on Moheli, and three on Anjouan). Mt Karthala is the most important area ornithologically, four species being restricted to this one mountain alone; all the other multi-island, restricted-range species as well as *Nesillas brevicaudata* (which occurs more widely on Grand Comoro) also have significant populations there, further emphasizing its importance.

**Ramsar sites:** There are 3 designated wetlands of international importance in the Comoros covering a total area of 16,032 ha: the Dziani-Boundoumi Lake (Moheli, 32 ha), the Karthala forest (Grand Comoro, 13,000 ha) and Mount Ntringui (Anjouan, 3000 ha). These sites are included in existing and future protected areas.

<sup>31</sup> Atlas of Western Indian Ocean Coral Reefs, 2009, IRD, pp.5

<sup>32</sup> BirdLife International (2012) Endemic Bird Area factsheet: Comoro Islands. Downloaded from <http://www.birdlife.org> on 25/04/2012