



## UNDP Project Document

Government of Benin

Executing Agency: Ministry of Environment and Nature Protection (MEPN)

General Directorate of Forests and Natural Resources (DGFRN)

Additional partners: local NGO partners

United Nations Development Programme

UNDP GEF PIMS 2823

As part of the GEF's Strategic Programme for West Africa (SPWA), Sub-Component Biodiversity

# Incorporation of Sacred Forests into the Protected Areas System of Benin

**Brief Description:** Benin is a small country in West Africa wedged between Togo and Nigeria with protected areas in the savannah region of the north wildlife-rich bordering with Burkina Faso and Niger, sparsely forested grazing lands, woodland savannah and cotton plantations in the centre and a mosaic of agricultural landscapes amid coastal lagoons in the south. Across the entire country, and not far from towns and villages, there are scattered patches of forest and tree groves of primary religious, ethno-botanical and conservation significance known as "*forêts sacrées*" or sacred forests. Under growing demographic pressures many of these sacred forests are disappearing, others maintain a fragile status as sites for religious (*woudoun*) practices and as natural gardens for the collection of plant material for traditional medicine, widely practiced across Benin. The Government of Benin through the General Directorate of Forestry and Natural Resources has embarked in a comprehensive strategy to conserve these forests as part of its national system of protected areas, for the biodiversity values these sacred forests contain and for their considerable ethno-cultural and religious significance. This project will contribute to the governmental effort to: (i) providing protected area status to 10 clusters of sacred forests in ecologically important regions of the country, (ii) supporting management and conservation activities of these forest remnants within the existing forest administration structure, by applying specifically designed and participatory management strategies, and (iii) promoting sustainable uses of natural resources around these forests in order to reduce exploitation pressures on the protected resources, sustain production of medicinal plants and materials, promote cultural and ecotourism activities and most important of all, improve the livelihood of surrounding communities. The General Directorate of Forestry and Natural Resources will work alongside municipal governments, traditional authorities, practitioners of traditional medicine and *woudoun* religious priests in the conservation and management of 10 clusters of sacred forests "connected" strategically with ecologically significant classified forests, protected areas, gallery forests and natural ecosystems such as wetlands and lagoons.



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### Acronyms

ABE	Benin's Environmental Agency / <i>Agence Béninoise pour l'Environnement</i>
AfDB	African Development Bank / <i>Banque Africaine de Développement (BAD)</i>
CDB	Convention on Biodiversity / <i>Convention sur la Diversité Biologique</i>
CERF	Center for Research and Forestry Training / <i>Centre d'Études, de Recherches et de Formation forestières</i>
CENAGREF	National Center for the Management of Fauna Reserves / <i>Centre National de Gestion des Réserves de Faune</i>
CENATEL	National Remote Sensing Center / <i>Centre National de Télédétection</i>
CITES	Convention on International Trade in Endangered Species of Wild Flora and Fauna
DGFRN	General Directorate of Forests and Natural Resources / <i>Direction Générale des Forêts et des Ressources Naturelles</i>
DGCN	Direction Générale de la Conservation de la Nature
FAO	Food and Agriculture Organisation
FFEM	French GEF / <i>Fonds Français pour l'Environnement Mondial</i>
FS	Sacred Forests / <i>Forêts Sacrées</i>
GEF	Global Environment Facility
GTZ	German Technical Cooperation Agency (Deutsche Gesellschaft für Technische Zusammenarbeit)
IUCN	World Union for Nature Conservation
KfW	German Development Bank / <i>Banque Allemande pour le Développement</i>
LEA	Laboratoire d'Écologie Appliquée
MEPN	Ministry of Environment and Nature Protection / <i>Ministère de l'Environnement et de la Protection de la Nature</i>
MAEP	Ministry of Agriculture, Livestock and Fisheries / <i>Ministère de l'Agriculture, de l'Élevage et de la Pêche</i>
MDGLAAT	Ministry of Decentralized Governance and Local Administration / <i>Ministère de la Décentralisation de la Gouvernance Locale, de l'Administration et de l'Aménagement du Territoire</i>
ONG	Non Governmental Organization / <i>Organisation Non Gouvernementale</i>
PAGEFCOM	Project for Support to the Management of Communal Forests / <i>Projet d'Appui à la Gestion des Forêts Communales</i>
PAMF	Project for the Management of Forest Massifs of Mount Kouffé Wari-Marou et d'Agoua / <i>Projet d'Aménagement des Massifs Forestiers des Monts Kouffé, Wari-Marou et d'Agoua</i>
PBF II	Firewood Project II / <i>Projet Bois de Feu phase II</i>
PGTRN	Project for the Management of Natural Resource Lands / <i>Projet de Gestion des Terroirs et Ressources Naturelles</i>
PGFTR	Program de Gestion des Forêts et Terroirs Riverains
PNUD	Program des Nations Unies pour le Développement
ProCGRN	Program for the Conservation and Management of Natural Resources / <i>Programme de Conservation et de Gestion des Ressources Naturelles</i>
PRRF	Project for the Restoration of Forest Resources / <i>Projet de Restauration des Ressources Forestières</i>
RBP	Pendjari Biosphere Reserve / <i>Réserve de Biosphère de la Pendjari</i>
UAC	Abomey Calavi University / <i>Université d'Abomey Calavi</i>
UE	European Union / <i>Union Européenne</i>
WAP	W, Arly, Pendjari Protected Area Complex

**Figure 1. Benin geographical location in West Africa**



4. Benin also harbours a great number of small “sacred forests” where *de facto* conservation has been practiced for decades, if not centuries, and in many instances more effectively than in many formally designated protected areas (PA) units. According to a survey of sacred forests carried out in 2003<sup>1</sup>, a total of 2,940 sites were inventoried with a total area of 18,360 hectares<sup>2</sup> (approx. 0.2% of the country’s land surface). The conservation significance of these “sacred forests” might not be their size but rather their value as wildlife and species refuge, their potential importance as forest relicts and as ethno-botanic assemblages of medicinal plants, which are widely used across the country. Some of the largest sacred forests are concentrated in the administrative department of Zou, forming clusters with varied ecological connectivity between individual sites and with protected areas such as the “*forêts classées*”.

## CONTEXT AND GLOBAL SIGNIFICANCE

### *Biodiversity*

5. Benin is located in tropical West Africa, in the easternmost part of the Guinean Moist Forests Ecoregion, although outside the ranges of the Upper and Lower Guinea Hotspots. Benin’s rich biodiversity has shown remarkable resilience despite a long history of

<sup>1</sup> Butre, Innocent (2003): *Les Forêts Sacrées et Patrimoine Vital au Bénin*

<sup>2</sup> Other authors consider that this number is underestimated, but no recent census of sacred forests has been available since.



13. The future of the remaining natural forest in Benin is subject to managing a range of variables and socio-economic factors, which can be broadly attributed to a rapidly increasing population, continued use of unsustainable agricultural practices by farmers, the continued and increasing demand for wood fuels and general poverty. As the pressure continues to erode the natural forest resources the same pressures exist and continue to exert themselves on the sacred forest. The future of all of Benin's forest resources is inextricably linked to continuous development of a new paradigm for integrated forest management at all social and administrative levels.

### *Protected Areas System*

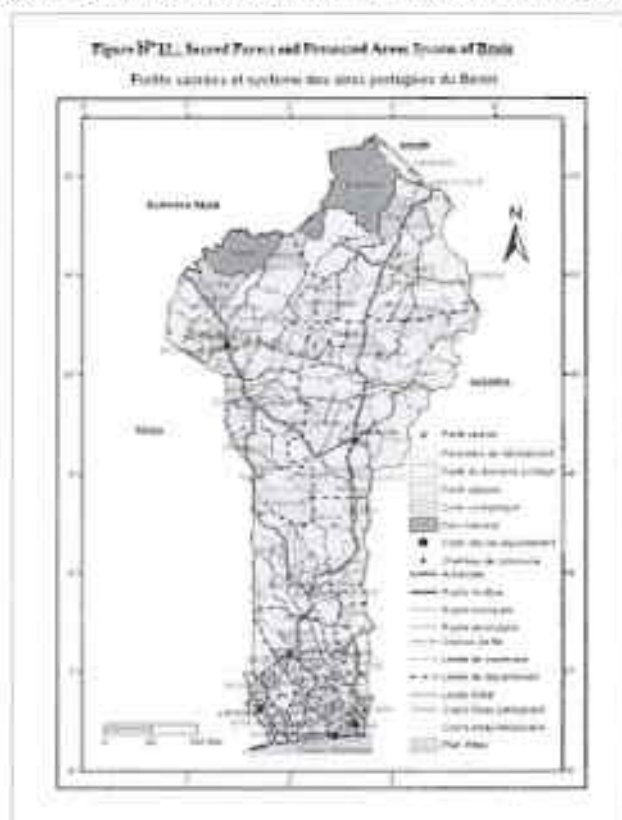
14. Benin's system of protected areas (PAs) encompasses approximately 24% of the country's land surface, providing a good foundation for biodiversity conservation in the country. The most important elements of the PA system are two large National Parks (W and Pendjari) located in Benin's north, which together with their buffer zones and transition areas cover 777,000 hectares or 7% of the country's land surface. There are also three hunting zones and one bird reserve (proposed) encompassing an additional 580,000 hectares, all of which are classified under IUCN categories I-V and represent 11.4% of the land surface. Government, supported by several conservation programmes introduced participatory management of PAs, has led to a drastic reduction in poaching and increased numbers of important species including a doubling of the elephant populations to 1,600 in the last five years. The Pendjari N.P. houses one of the last remaining populations of African wild dogs in the world and one of the last populations of elephants and cheetahs in West Africa. Benin's PA system also includes a network of 44 gazetted forests (*forêts classées*) that cover 1,292,543 hectares. However, lack of management plans, infrastructure, and staff in most of the gazetted forests severely limits their function as conservation areas. Most of them are in an advanced stage of degradation. The Lama Forest (1,900 ha) is the most important remaining patch of dense semi-deciduous forest.

15. Benin's territory plays an important role in the life cycle of eight species listed by the World Conservation Union (IUCN) as "endangered" or "critically endangered." Of these, two are mammals (African wild dog and red-bellied monkey), three are fish (goliath grouper, dusky grouper, African wedge fish), and three are reptiles (leather back turtle, green turtle, hawksbill turtle). The African wild dog has been the center of conservation efforts for more than 20 years and its situation may be described as stable but tenuous; the red-bellied monkey inhabits the remaining patches of Benin's southern forests, which is under siege. Annex 2 presents side by side, the forest cover maps of Benin in 1975 and in 2000 showing clearly the level of deforestation and land degradation of the last decades.

16. The extreme degree of fragmentation indicates that in Benin there are few ecologically viable patches of semi-deciduous forests. While still an important repository of biodiversity — providing refuge for 20 percent of Benin's plant species — these patches are probably no longer suitable habitat for many animal species that once inhabited Benin's semi-deciduous forests. Nonetheless, Nagel et al (2004) calls attention to the fact that the Lama Forest is one of the few remaining habitats for several "endangered" and "vulnerable" mammal species, such as the

endemic red-bellied monkey sub-species (*Cercopithecus erythrogaster erythrogaster*), the sitatunga, (*Tragelaphus spekei*), the royal antelope (*Neotragus pygmaeus*), the black duiker, (*Cephalophus niger*) and the yellow-backed duiker (*C. silvicultor*).

**Figure 3. Sacred Forests and the Protected Area System**



Note: Refer to Project Map 13 for this figure in larger scale

### Wildlife

17. Law 2002/16 of October 2002 (wildlife law) regulates the management and use of wildlife. The law reverses previous legal instruments by opening the door for participatory management of wildlife. Article 3 states: “the management of wildlife and its habitat must be made in partnership with neighboring communities in order to maintain and develop for the long-term their value and biological, ecological, socioeconomic, nutritional, scientific, cultural, aesthetic, and recreational functions.” The law distinguishes the following categories of protected areas:

- **Integral Nature Reserves**, where all activities are prohibited, including tourism or even low-level flying;
- **Wildlife Reserves**, where the hunting and capture of wild animals and other human activities are prohibited or strictly limited and exercised only under the control of the reserve authorities;



- **Special Reserves**, where all activities are subordinate to the specific objectives for which they were created;
- **National Parks**, where the fauna and flora are conserved to ensure their perpetuation;
- **Hunting Zones** (*Zones cynégetiques*), where wildlife and its habitat are conserved and the rational exploitation of wildlife for recreational, economic, and scientific purposes is permitted. All the categories outlined above belong to the gazetted forest category (*forêts classées*) under the forestry law (law 93-009) described earlier.

### **Sacred Forests**

18. Because of their origin, nature and geographic context, sacred forests in addition to global ecological benefits also generate a variety of national and local benefits that underpin the case for their protection through sustainable use. Benin is considered to be the “birthplace of voodoo” (or *Vudun*, as spelled in the *Fon* language of Benin meaning “God”). Very strong cultural and religious beliefs have proven to be highly effective deterrent mechanisms against forest clearance. Local knowledge on the properties and uses of native flora and fauna is often highly related to and dependent on the continued access to diverse species conserved within sacred forests, and this knowledge and experience of healers and other custodians of sacred forests on conservation practices and the sustainable use of biodiversity has potential application to other forms of protected areas and at the broad landscape level.

19. Sacred forests have strong socio-cultural and religious functions (cemeteries, locations for initiation, blessing and cursing, while also providing shelter to deities)<sup>3</sup>, as well as economic functions (gathering of deadwood, medicinal plants, and NTFPs). Generally, there are strong links between a sacred forest and the history of the village to which it belongs. Villages very often bear the names of sacred forests. Access to sacred forests belonging to secret societies is completely forbidden to the non-initiated, while access to cemetery forests, fetish forests and community forests is subject to the authorization of traditional chiefs. In addition to traditional customs that protect sacred forests, persons found guilty of improper activities (including ecological degradation) within sacred forests are subject to penalties, which may run from simple warnings to fines (usually paid in livestock) to bewitchment. Often, the same forest patch can be considered sacred to more than one group. E.g. certain sites in the heart of Monts Couffé are considered sacred by the Nago people (Bante) but also by other kingdoms further north from Basila to Parakou. The project is expected to have a coalescing effect in such situations, buffering potential conflict among groups.

20. The variability of the sacred forests is mainly due to: (i) the multiplicity of deities venerated within them, (ii) the variety of concepts related to particular roles assigned to forest deities and spirits, (iii) the legends associated with their origin, (iv) the nature of totems which give rise to cultural and food taboos, and (v) the diversity of natural habitats. According to work and Kokou and Sokpon, (2006) there are several types of sacred forests:

<sup>3</sup> Different types of Sacred Forests can be grouped according to their religious function into: fetish forests (59.6%), secret society forests (20.8%), community forests (9.8%) and cemetery forests (8.33%) (MEHU/PNUD 2002).

- Sacred Species. In Benin, some species of trees or animals are sacred. A sacred tree is tied to a practitioner for his entire life (Sokpon and Kokou, 2006). The believer identifies with the qualities of the sacred tree: for example strength and greatness of the baobab, the splendor of the iroko, etc. The sacred species vary from one region to another. For example, some species of python are sacred in certain parts of the south but not in the north.
- Sacred hunting forest reserves. In this type of forest, the rites of domestic animals sacrifices to the vodoun deities are limited to the beginning of each hunt. Nearby residents have the right to hunt, to extract the honey and cut certain trees for timber.
- Forests of the ancestors. These forests house the spirits of the ancestors. It is usually where the first occupant of the village is buried. Some of these forests have become cemeteries for village dignitaries. These are forests where the rituals are performed to benefit the community.
- Forests of the dead. These forests serve as burial sites for people who die in a bizarre or violent event (following a road accident, in a fire, during child birth, struck by lightning or drowned). For fear of suffering the same fate as the dead they are buried in special forest and groves.
- Forests of the gods and spirits which protect people. They are most numerous and can accommodate several deities or forest spirits in one site. Common vodoun deities include: *Danzoun Dan* (serpent god), *Nyiglinvé* (rainbow god), *Xèbiossozoun Xèbiosso* (god of lightning), *Sakpatazoun Sakpata* (god of the earth) and *Lissazoun* (symbolized by the chameleon). There are also forests that local people call "principal sacred forest" whose deities are consulted only in case of serious problems and when the sacred forests called "secondary" are unable to find solutions to their problems (deadly epidemic, persistent drought, etc.).
- Forests of secret societies. They serve as places of secret society initiations. They include the *Orozoun* or forests of Oro, the *Kouvitozoun Kouvito* forests and the *Zangbétozoun* or forest of Zangbeto (these vodoun deity embody the dead and the ghosts).

21. The origins of sacred groves are rooted in historical conjecture. Most sacred groves take their origin from the towns and villages where they are located. They are usually as old as the settlements and their history can be recounted by the custodians or chiefs of the areas.

22. An inventory undertaken by researchers (Sokpon and Agbo, 1999) under the IDRC project 'Sacred Forests - a Vital Heritage in Benin' (1996 – 1998) identified 2,940 sacred forests extending to an area of 18,360 ha. This amounted to 0.2% of the total territory of Benin. 70% of the 'forests' are small sacred groves of less than 1 ha, 18% extend to an area of between 1ha and 5 ha and 12% are larger than 5 ha. There are a number of large sacred forests, which include Igbo Doléo (1,600 ha), Adjougni (1 200 ha), Ekpasso (800 ha), Igbo Lakou (600 ha), Félia (600 ha) in the Zou Department and Adakplamé (450 Ha) and Gnanhouizoun (300 Ha) in the Ouémé Department. The diversity of forest species within the sacred forests (DBH equal or greater than 10 cm) varies from one forest type to another and between 3 and 55 species (Sokpon and Kokou



2006). The main physiognomic types that make up these forests are semi-deciduous forests and dry semi-deciduous forests in the north and center of Benin, dense forests and semi-humid forests in the south and along the coast.

### ***Biodiversity in Sacred Forests***

23. Sacred forests represent a significant tool for conservation and the sustainable use of biodiversity. First, they are highly important as *refugia* within the productive landscape for numerous species, some of which provide important benefits to the surrounding productive lands, such as pollinating insects and birds, and plant species used for live fences and hedges<sup>4</sup>. Secondly, sacred forests also function as in-situ seed-banks and genetic reservoirs. Some of the flora and fauna species found within sites or in their vicinity include threatened and endangered species. For example, both the hippopotamus and the crocodile are considered sacred animals, and these and other animals are protected by local communities within, but also outside sacred forests. Thirdly, as landscapes that have been carefully managed over tens and even hundreds of years, sacred forests' ecosystems and species assemblage are somewhat different from any of the areas currently included in Benin's system of PAs, and equally different from the cultivated landscapes by which they are surrounded.

24. Although detailed and systematic surveys of biological resources found in sacred forests are still lacking, there is sufficient evidence in existing studies that sacred forests have higher concentrations of useful, rare and threatened plants (e.g. *Garcinia kola*) and animal species (e.g. *Psittacus erithacus* and *Colobus vellerosus*) per unit area than what would be usually found outside sacred forests and their area of influence. Among the identified biodiversity in sacred forests are also numerous medicinal plants, large trees considered sacred (therefore not felled for timber) and several fruit trees, which attract avifauna and other wildlife (see **Erreur ! Référence non valide pour un signet.**). Game, much of which enjoys protection due to their attributed sacred character, is often not hunted within sacred forests and in their vicinities due to traditional beliefs. Finally, sacred forests generate other ecological benefits, some of which go beyond the area immediately covered by the sites. These include the protection of water sources, barriers against soil erosion, safeguarding of soil fertility and carbon sequestration.

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<sup>4</sup> A study from the Neotropics had shown that small patches of forest in agricultural landscapes provide critical habitat for bird species (Sekercioglu et al., Conservation Biology, April 2007). This possibly applies to other mobile and less mobile forest species.

## Box 2. Samples of important biodiversity found in Sacred Forests

Medicinal plant species	VE	Known uses in Benin
<i>Ichomea cordifolia</i> (Schum & Thonn.) Müll. Arg.	I	malaria and jaundice
<i>Anthoecia nobilis</i> G. Don	I	the anatomy
<i>Bambusa brevicaulis</i> *	E	muscular strains and broken bones
<i>Cochlospermum platanifolium</i> Hook f. ex Planch.	I	gynecological maladies
<i>Combretum macrocarpum</i> G. Don	I	anti-malarial
<i>Cyathea adpressata</i> DC §	E	antiseptic effects, among other uses
<i>Moringa lucida</i> Benth.	I	malaria and hypertension
<i>Neobambusa laevis</i> (P. Beauv.) Seemant. ex Bureau	I	cough, toothache, conjunctivitis and dysmenorrhea
<i>Holcortia floribunda</i> (G. Don) Dur. & Schinz	I	genital infections
<i>Procris crassipes</i> K. Schum.	I	anti-malarial and diuretic
<i>Favosia corvulacea</i> (DC) F. N. Williams	I	weight gain
<i>Kava'ofia coffea</i> Sode	I	neurological relief, we also used against mental diseases
<i>Spondias monbetii</i> L. *	E	gynecological, obstetrical and socio-cultural/medicinal features
<i>Phacelia africana</i> Sode	I	hypertension
<i>Xylocarpus nimbosus</i> (Dunal) A. Rich.	I	aromatic tree with several uses including insecticide

Notes: I = Indigenous; E = Exotic; VE: Vulnerable and E: Endemic uses. Information from the literature is probably from Benin. The tree was mentioned in Benin, but its actual collection is historical from West Africa only.

### Important tree species and their ecological functions

*Adansonia digitata* and *Millettia excelsa*: canopy provides (1) shade in the forests' understory creating conditions for germination of shade-loving tree species (the case of many native tropical tree species), (2) shelter to innumerable animals (birds, arthropods, small herpetofauna and small and medium-size mammals), and (3) retention of soil moisture and carbon sequestration. They could also provide timber but sacred beliefs prohibit their felling.

Other tree species include *Celtis pectinaria*, *Azela africana*, *Rhaya senegalensis*, *Diospyros mespiliformis*, *Parkia biglobosa*, *Tamarindus indica* and *Sonchus oleraceus* (noting that not all of these are indigenous trees). These tree species attract bats, birds, insects and fungi.

### Important fauna species, threat status and contextual conservation in Sacred Forests

<i>Colobus vellerosus</i> (primate, threatened by habitat loss)	It is believed that the Black-and-white colobus can forewarn villagers of upcoming unfortunate events, such as drought, disease or death, and are therefore not hunted.
<i>Osteolaemus tetraspis</i> (vulnerable) and <i>Crocodryas cataphractus</i> (data deficient)	The West African dwarf crocodile and the African sharp-nosed crocodile are sacred animals within traditional beliefs. They are worshipped by villagers and never hunted. The crocodile's presence in wetlands and streams imposes a temporary ban on fishing.
<i>Hippopotamus amphibius</i> (vulnerable)	Apo is sacred, worshipped animal, believed to provide villagers with abundant fish catch.

Research: (1) Centre Filles Religieuses de Bénin (CERFIL) (2) Centre de Recherche Appliquée (CRA) de la Forêt des Nations Agronomiques Villages de l'Aloué, Cotonou, Bénin; (3) Centre d'Analyse de Bénin (CAB) Publishers (2006); (4) SIB (SIS/IN/20) (2002); Création et développement de capacités pour la préservation et l'intégration des connaissances et savoirs locaux, pratiques des communautés autochtones et locales liées à la diversité biologique et traditionnelle des communautés de mode de vie traditionnelles au Bénin (published in 2002 in connection with the UN/FAO-NGO project).



## INSTITUTIONAL, POLICY AND REGULATORY CONTEXT

25. The Ministry of Environment and the Protection of Nature (MEPN), through the Directorate General of Forestry and Natural Resources (DGFRN) is the government entity in charge of management of the country's natural resources. The National Center for the Management of Fauna Reserves (CENAGREF), an autonomous entity under the Ministry of the Environment, is in charge of the national system of protected areas. The DGFRN is directly responsible for the country's forest resources belonging to the "public domain" including the gazetted forests (*forêts classées*) and the forest plantation perimeters. The sacred forests belong to the non-public domain which includes collective or community properties outside the jurisdiction of the State. The DGFRN maintains a staff of regional foresters in charge of gazetted forests near these sites. Unfortunately their discretionary power to assign "timber permits" has not helped their popularity among communities interested in the maintenance of forests and thus their participation in the management of sacred forests.

26. The government decentralization law of 1999 extends the authority of the municipal governments onto all lands, including collective property, community lands and sacred forests, located within the municipal limits. Most municipal governments however, recognize the special status of sacred forests and tend to respect the traditional authorities ancestral rights on the use and conservation of these forests. The institutional-political context of most sacred forests is further complicated by the fact that many mayors derive their political power from informal alliances with traditional authorities, local kings and voodoo priests. In addition, most municipal governments are unprepared to take on sacred forest management and prefer to share this responsibility with traditional authorities, especially when local kings and village chiefs are still active. In this project, municipal governments will play a coordinating role and work side by side with traditional authorities in the management and conservation of sacred forests.

27. The Ministry of the Environment and the Protection of Nature coordinates plans and actions related to the United Nations Convention on Biological Diversity (CBD) and the UN Framework Convention on Climate Change (UNFCCC) through the Directorate General of Forestry and Natural Resources. The mandate of conservation and sustainable use of forest resources and biological diversity in Benin is pursued in collaboration with sectoral ministries such as the Ministry of Agriculture, Livestock and Fisheries and the Ministry of Higher Education and Scientific Research and some NGOs. A number of bilateral and multilateral cooperation agencies (World Bank, African Development Bank (AfDB), French GEF (FFEM), the German Development Agency (GTZ), KfW, DANIDA, GEF, FAO, UNDP, etc.) support an important number of projects for the sustainable management of natural resources and biodiversity.

28. Annex 3 contains a table which summarizes the different interventions in the natural resources sector in Benin by donor.

## THREATS, ROOT CAUSES AND IMPACTS

29. Given the history of the region and the prevalent land use practices, it is remarkable that there are still forests left in Benin, especially in the south—a region where people from different parts of Africa and from different cultures were assembled during the slave trade, resettled forcefully and found few choices other than using the resources until exhaustion. Moreover, in the last decades, traditional slash-and-burn farming practices have been replaced by more intensive agricultural methods and by commercial crops especially, cotton, cashew nuts and palm oil. As it usually happens, such changes affect peasants, increase the pressure on the remaining natural resources, reduce the size of forest remnants, affect their structure and composition, deplete game animals and create ever smaller forest fragments. When gallery forests connecting these patches are destroyed as well, these forests start an inevitable slide towards ecosystem degradation and biodiversity loss. Although many of the sacred forest of central and southern Benin have been preserved because of their cultural and religious significance their present conditions as remnant samples of the original forest cover is precarious. In the northern part of the country the conditions are better because sacred forests are larger, connectivity with other natural areas functional and the forest stewardship function of traditional authorities relatively strong. The major threats affecting the viability of sacred forests and the survival of biodiversity within them can be summarized in three groups:

### Habitat / land use change

- Encroachment into the forest of farming activities – the forests are being destroyed and replaced with grass cultivation and pasture. Large areas of woodland and forest are lost every year and an estimated 100,000 ha forest cover are affected annually. As commercial crops expand and the rural population grows, the demand for farmland continues to increase, placing pressure on remaining forest areas. Whilst in some areas land is generally available, the soils within forests are considered richer than on the outside, thus conversion of this land to crops is seen as advantageous. Where controls are weak, forests –including sacred forests are being systematically felled, timber converted for other uses or burned and crops planted. In addition, sacred forests are directly linked with the communities who live and work around them. As communities expand, pressure for construction land increases and the forests –perceived as “communal” property, are invaded for the construction of homes and human settlements.
- Bush fires – fires occur both through natural and anthropogenic causes. The principal causes of bush fire are the slash and burn cultivation which is still the predominant form of agriculture in Benin, hunting and pasture renewal. Bushfires are a constant menace to forest resources in the savannah region of Benin. These fires are usually set by people for a variety of reasons such as for example: (a) hunters burning grass to drive small animals into the open, (b) herders setting fires to encourage a new flush of grass for their stock, (c) farmers engaging in pre-emptive burning to protect fields, groves etc. and (d) farmers creating ash to fertilize low-yielding soils. Whatever the reasons for bushfires, they are a threat to savannah forests affecting the herb, shrub and understory trees, decimating wildlife, destroying the microbiology of soils and ultimately destroying the forest completely. As sacred forest become smaller in size and the forest structure more open they become easily victims of out-of-control bush fires thus affecting their long-term ecological viability and reducing ecosystem functions.



- Animal husbandry – woodlands and trees are lost as a result of farmers resorting to lopping, pollarding and felling trees to gain access to “green fodder” and setting fires to encourage new pasture.

#### Overexploitation of forest resources

- Firewood and charcoal production – Fuel wood is used in the most rural households, while charcoal is used extensively in urban centers of Benin. The energy challenges in Benin’s economy are taking a toll on forest resources. 73% of the total energy consumption is derived from wood, which leads to severe degradation of the forests and to soil erosion. The supply of wood for fuel to urban and peri-urban areas is based on geographically concentrated and non-sustainable forest resource management practices, deforestation is seen around all major conurbations and fuel wood and charcoal is transported great distances to meet the urban demands. Areas where charcoal burners operate become denuded of wood creating social and economic impacts for local people through land changes brought about by the stripping of the timber resource. Access to forest and wood resources has become a conflicting land use issue, while the increased economic importance of both fuel wood and charcoal, has escalated pressures on remaining forest stands, woodlots and sacred forest. Charcoal burners, claiming the bush as a free resource, affect forest resources by selectively cutting old and slow growing trees -better for charcoal making, and by contributing nothing to reforestation and natural regeneration. The intensive use of the wood resources is driving local communities living close to sacred forest to increasingly utilize this resource for firewood, building wood, etc. leading to increasing degradation. National and municipal authorities as well as village chiefs indicate that they would like to see a controlled and a regulated charcoal trade to avoid depletion of forest resources, fragmentation of wooded areas and loss of biodiversity and ecosystem services.

#### Climate change

- Size of protected areas – While the impact of climate change on sacred forests is far from understood, it is expected that increased climatic variability, further challenge the resilience of sacred forests and accelerate the process of habitat loss and degradation. Evidence shows that, the smaller sites the sites that offer protection to biodiversity are, the more rapid the process of biodiversity loss will be. Clustering sites and ensuring that there are ecological corridors between them may counteract in the medium to long run the more pernicious effects of climate change.

### **LONG-TERM SOLUTION AND BARRIERS TO ACHIEVING THE SOLUTION**

30. Part of the long-term solution to sustainably using biodiversity within Sacred Forests’ is their integration into Benin’s PA system, which will provide increased tenure security and usufruct rights over land to communities and traditional authorities. The other part is to promote sustainable use regimes for forest products found and explored within Sacred Forests, particularly non-timber (NTFP), and to extend good forest stewardship principles to landscapes immediately adjacent to Sacred Forests. However, a number of barriers stand in the way of this long-term solution, as explained below:

**Barrier 1) Sacred forests have no legal framework under which their resources and biodiversity can be protected other than weakening authority of village chiefs and voodoo priests.**

- The failure to clarify property or usufruct rights may create disincentives for the good stewardship of resources that provide the basis for sustainable livelihoods and the sustainable use of biodiversity within sacred forests and the surrounding areas. This project will provide a new legal framework to the sacred forest as part of Benin's protected areas system. Such status will make sacred forests the object of attention by part of the country's forestry authorities and the subject of public intervention and financing. The project will create the conditions for a coordinated and collaborative effort by the part of forestry authorities (DGFRN), municipal authorities and traditional authorities to implement conservation actions and protect forest resources within the institutional and legal framework of the country's protected area system.
- The legal framework of the PA system poses barriers to a more effective protection of sacred forests. Presently sacred forests as communal lands are not part of the official public domain (*domaine classé*). Other than the authority of the municipal government - still generally weak, these forests function only under the authority of local kings, village chiefs and voodoo priests. As the power of traditional authorities within the community is weakening, sacred forests are threatened and biodiversity lost. Providing a legal framework within the protected area system of Benin will go a long way towards legitimizing conservation and forest management efforts, strengthen the social position of traditional authorities and reverse resource degradation and biodiversity loss.
- The decentralization process in Benin could represent an opportunity for strengthening land governance at the local level for the benefit of sacred forests and traditional peoples. This opportunity is not however being embraced. As a result of the public decentralization law, municipal authorities are to assume responsibility for the management of forest resource (including sacred forests) located within their jurisdiction. Yet local governments do not have in most cases, the technical capacity and financial resources to assume the role of forest managers, to administer ancestral right of use and to protect the forest resources from indiscriminate use. Moreover, for political reasons municipal governments also tend to avoid confronting traditional authorities on the use and conservation of sacred forests. During discussions held with a number of the mayors, the PPG team has observed that although there was support for the conservation of the sacred forest, the actual capacity for decision making and management was not evident within the organization and the need for capacity building was highlighted.

**Barrier 2) Weakening of traditional leadership and religious practices associated with the conservation of sacred forests affect biodiversity resources while there is little experience in community managed forestry and participatory processes.**

- Traditional authorities in charge of sacred forests -and especially those whose authority derives from the practice of voodoo rituals (*féticheurs*) and the enforcement of ancient



taboos, are increasingly being challenged by the social and economic status conferred by modern religions, the loss of followers, the questioning of secret societies and rituals, and the aging of voodoo practitioners. In such cases, taboos are difficult to enforce, the social status of voodoo priests is eroded and the power of local kings (*roi* in French) diminished. Engaging these authorities in conservation work within “officially recognized” sacred forests will strengthen their traditional role as “forest keepers” and legitimize their authority to control access and use of sacred forests.

- Though reversing religious and cultural trends is obviously beyond the scope of this project, implementing forest conservation mechanisms which strengthen the role of traditional authorities, medicinal plant collectors and other stakeholders is however doable. This support will in turn, lead to stronger stewardship of forest resources resulting in biodiversity conservation. This project will work closely with traditional authorities and engage them directly in forest conservation which will reinforce the legitimacy of their authority vis-à-vis the community. This objective will be achievable as a function of: (a) the degree of erosion of traditional authority, (b) the amount of perceived benefits the community derives from sacred forest conservation and sustainable use, and (c) the level of collaboration this engagement in forest conservation receives from other entities including the DGFRN, the municipal authorities, community groups, special interest groups (e.g., healers and medicinal plant collectors) and the NGO.
- In fact, the need by traditional authorities to recover some of their influence on decision making related to forest management makes them strong allies and major stakeholders in this project’s implementation strategy and thus will reduce one of the major threats to sacred forest conservation by strengthening traditional authorities status within the community. The challenging aspect of this process will be to design and carry out implementing arrangements that will enable traditional authorities, municipal governments and national forestry entities to work together towards the effective stewardship of sacred forests. In addition, it will be challenging to sustain the management of sacred forests -aiming at both global and local benefits- in the context of changing cultural norms. Key stakeholders -who would be involved in implementing new management arrangements for sacred forests, have presently a limited understanding of the relationship between biodiversity and ecosystem conservation and the appropriate forest management techniques. The PPG team, though recognizing the potential for implementing collaborative management models for sacred forests also identified the risk of institutional territoriality, lack of training and technical assistance and potential conflicts of interest among these different actors.

***Barrier 3) Indiscriminate extraction from sacred forests of plant material used in traditional medicine and of high economic value is depleting them. Increased poverty and food insecurity in surrounding villages increases pressure on the sacred forests resources (including soils and water).***

- In order to counteract the threats derived from uncontrolled harvesting of plant material for medicinal purposes and for firewood and charcoal, this project will undertake a set of

actions geared at producing such products in the buffer zone of sacred forests with community participation. The National Association of traditional healers (*tradithérapeute*) has embarked -with support from the Ministry of Public Health of Benin, in the establishment of “botanical gardens” specifically devoted to the production of plant material used in traditional medicine. These activities in addition to the establishment of fuel wood lots and the implementation of stricter rules for producing and distributing charcoal in urban markets will go a long way to reduce the impacts on sacred forests from overexploitation of plant material used in traditional medicine, the cutting of trees for fuel and charcoal making.

- Finally, the threats derived from poverty, limited access to farmland and grazing lands will be addressed through a community-based strategy of communication and environmental education lead by traditional authorities in collaboration with forestry agents and municipal authorities. This project will capitalise on the contribution that sacred forests in Benin can make to the sustainable use of biodiversity and to the sustainable development of surrounding communities through their incorporation into the formal PA system as a new category with clear objectives, management rules and institutions at national and local scale, but also with appropriate incentives that underpin good forest stewardship (i.e. property and usufruct rights).

31. In summary, the proposed long-term solution to avoiding further loss of biodiversity contained within the sacred forests of Benin is to: (a) establish an institutional framework for sacred forests, including the clear definition of roles and responsibilities for their management, and (b) incorporate them within the country’s system of protected areas as new “community conservation categories” managed through special collaborative arrangements between traditional authorities, municipal governments, community organizations and forestry entities coordinated by the DGFRN.

## INTRODUCTION TO PROJECT SITE INTERVENTIONS

32. During the PPG exercise the project team selected 58 sacred forests clustered in 10 groups based on criteria identified and validated during a workshop which involved all stakeholders at the national level. The workshop took place in Cotonou in January 2010 and the sites were visited during two extensive field trips where the characteristics of the selected sacred forests were evaluated, the feasibility to include them in a pilot phase for a possible longer-term programme in support of sacred forests, of which this project may be the first step, was assessed. The selection criteria which provide socio-cultural, institutional and ecological viability of these sites was equally verified. The selection criteria utilized in the identification and clustering of the sacred forests are the following:

- **Agro-ecological zone.** The sacred forests selected must contain representative samples of the ecosystems typical of one of the three main agro-climatic regions of the country: (a) Guinean region of southern Benin (from the coast to Bohicon); (b) the Sudano-Guinean



region of the centre of the country (from Bohicon to Tchaourou), and (c) the Sudanese region of the north of Benin (from Tchaourou to the Atacora mountains).

- **Biodiversity potential.** The sacred forest must contain important biodiversity resources of national, regional and global significance.
- **Size of sacred forest.** The selected cluster sacred forest must have a minimum size of 50 ha to make management practical and long-term viability of the ecosystem possible. Where minimum size cannot be attained, other features of high interest for conservation (e.g. presence of rare fauna) must be present.
- **Biological connectivity and spatial/ecological networking.** The selected sacred forests must be connected with other natural ecosystems and/or protected area through ecological corridors, gallery forests, rivers and water bodies.
- **Socio-cultural relevance.** The selected forest must be relevant from a socio-cultural point of view by retaining its traditional role in religious rituals, collection of plant material for traditional medicine and as a relevant site in historical, cultural and religious heritage of the surrounding communities.

**Table 2. Sacred forests clusters selected in the three main agro-ecological zones of Benin**

Cluster No.	Name of Sacred Forest Cluster	Number of Sacred Forests included	Total Area (ha)	Ecological Connectivity (*)	Biodiversity Resources (**)
1	DONGA Sacred Forest cluster	3	93	Gazetted Forests of the Upper Ouémé river: FC de Bassila et FC de Mont Kouffé	<i>Dominant forest species:</i> le karité, Khaya, lingé, fraké, Anogeisus, ceiba, faus ebène, daniella, dialium baobab, colatier. <i>Wildlife:</i> Monkeys, reptiles, chiroptères, porc-épic, faune aviaire.
2	Pendjari National Park Sacred Forests cluster	4	180	Zone Cynégétique de la Pendjari, Rivière Pendjari, RHP, site Ramsar 1669	<i>Dominant forest species:</i> le karité, Khaya, lingé, fraké, Anogeisus, colatier (cola gigantea), ceiba, daniella, dialium, baobab, Fagara <i>Wildlife:</i> Rich in bird species, monkeys, reptiles, chiroptères.
3	W National Park Sacred Forest cluster	4	110	Zone Cynégétique of Parc W and Gazetted forest of Soti and Trou Rivières RAMSAR site 1669	<i>Dominant forest species:</i> le karité, Khaya, lingé, fraké, Anogeisus, colatier (cola gigantea), ceiba, daniella, dialium baobab, Fagara <i>Wildlife:</i> Monkeys, reptiles, chiroptères, porc-épic, faune aviaire.
4	Upper Ouémé valley Sacred Forest cluster	6	220	Upper Ouémé River Valley and Wari Maro, of Ouénou Bénoua, and of the Trou rivières, Fleuve Ouémé	<i>Dominant forest species:</i> le karité, Fagara, Khaya, iroko, lingé, fraké, Anogeisus, Blaya, ceiba, daniella, dialium baobab. <i>Wildlife:</i> Monkeys, reptiles, chiroptères, porc-épic, faune aviaire.
5	Agoua Sacred Forest cluster	6	4,010	Gazetted/protected forest of Agoua, Mont Kouffé and the upper Ouémé	<i>Dominant forest species:</i> le karité, Fagara, Khaya, iroko lingé, fraké, Anogeisus, Blaya, ceiba, daniella, dialium baobab

Cluster No.	Name of Sacred Forest Cluster	Number of Sacred Forests included	Total Area (ha)	Ecological Connectivity (*)	Biodiversity Resources (**)
				River valley	<i>Wildlife</i> : Monkeys, reptiles, chiroptères, porc-épic, faune aviaire
6	Djidja Sacred Forest cluster	5	1,140	Protected forest domains of Djidja and State teak plantation	<i>Dominant forest species</i> : lingé, fraké, Anogeisus, Bligia, ceiba, daniella, dialium baobab <i>Wildlife</i> : Monkeys, reptiles, chiroptères, bird species and other mammals
7	lower Ouémé valley Sacred Forest cluster	16	1,620	Lower Ouémé River valley, Gazetted Forest of Djidja and State teak plantation and PC of Dogo Kétou, Ouémé river, RAMSAR site 1018	<i>Dominant forest species</i> : colatier ( <i>Cola gigantea</i> ) sariba, lingé, inoko, fraké, Anogeisus, Bligia, ceiba, daniella, dialium, Mitragina <i>Wildlife</i> : Monkeys, loutre, reptiles, chiroptères, singiya bird species
8	Groupe de FS de la Lama	8	160	Ouémé and gazetted/protected forest of the Lama	<i>Dominant forest species</i> : colatier ( <i>Cola gigantea</i> ), mitragina, sariba, lingé, inoko, fraké, Anogeisus, Bligia, ceiba, daniella, dialium, <i>Wildlife</i> : Monkeys, reptiles, chiroptères, loutres, bird species, reptiles
9	Groupe de FS du Couffo	4	55	Couffo River Valley and Adjame Forest Reserve	<i>Dominant forest species</i> : colatier ( <i>Cola gigantea</i> ), mitragina, lingé, inoko, fraké, Anogeisus, Bligia, ceiba, daniella, dialium, <i>Wildlife</i> : Monkeys, reptiles, chiroptères, faune aviaire reptiles
10	Groupe de FS du Mono	2	11	Lower Mono River Valley, RAMSAR Site 1011,	<i>Dominant forest species</i> : colatier ( <i>Cola gigantea</i> ), mitragina, sariba, lingé, inoko, fraké, Anogeisus, Bligia, ceiba, daniella, dialium, <i>Wildlife</i> : Monkeys, reptiles, chiroptères, avifauna
<b>Total</b>		<b>58</b>	<b>7,599</b>		

PC = Forêt classée = Gazetted Forest or protected forest

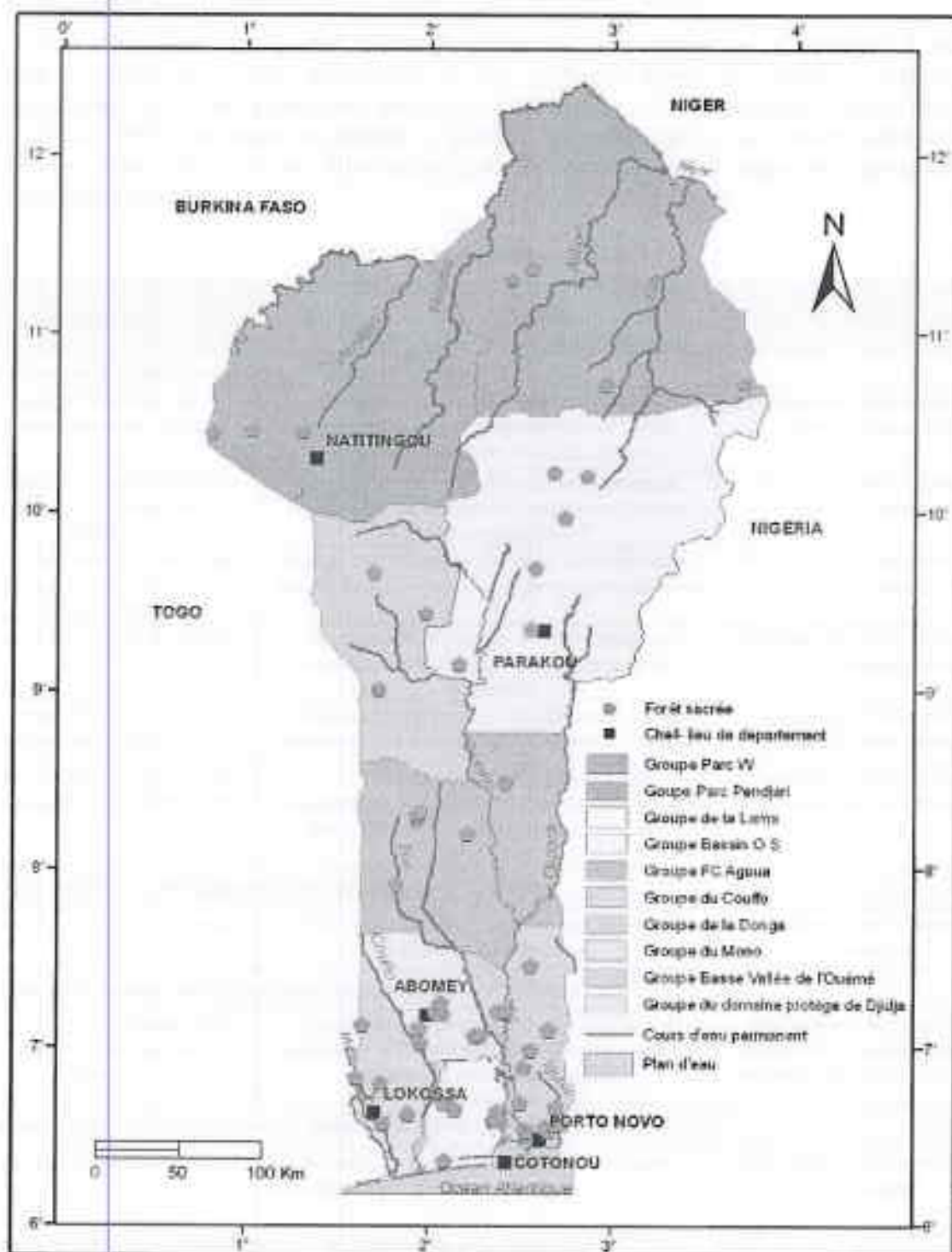
(\*) Ecological connectivity refers to biological connections with other forest and/or protected areas

(\*\*) Biodiversity resources refers to representative plant and animal species

33. Figure 4 below shows the location of the 10 clusters of selected sacred forests included in the project.



Figure 4. Clusters of Sacred Forests in the Pilot Phase



Stakeholder	Roles and Responsibilities	Mandate
Directorate of Programming and Perspectives	Administer the planning of interventions (projects/programmes) related to natural resources	Food security
<b>Ministère de la Santé Publique (MSP)</b>		
National Association of Practitioners of Traditional Medicine of Benin (ANAPRAMETRAB)	Promote the use of medicinal plants, regulate the practice of traditional medicine and administer externally funded projects related to traditional medicine	Sustainable use of plants in the practice of traditional medicine
<b>Ministère de la Décentralisation</b>		
Community House ( <i>Maison de la collectivité</i> )	Ensure the institutional strengthening of community councils and local governments	Sustainable use of natural resources of municipalities
<b>Ministère de l'Artisanat et du Tourisme</b>		
Directorate of Tourism	Promote tourism and eco-tourism in Bénin	Tourism use of natural and cultural resources
<b>International Financial Partners and Stakeholders (IFP)</b>		
UNDP/Benin	Support the implementation of the national strategy for biodiversity conservation and sustainable use of the country's forest resources	Technical and financial cooperation towards the sustainable management and conservation of natural resources
GEF-FEM		
UE-Delegation of the European Union		
WB-World Bank		
ADB-African Development Bank		
GTZ-German Agency Technical Cooperation		
USAID/Benin		
<b>NGO related to forest management and biodiversity conservation</b>		
<ul style="list-style-type: none"> <li>• NATURE TROPICALE</li> <li>• CEBERDES</li> <li>• ACND</li> <li>• APIC ONG</li> <li>• AERAMER</li> <li>• GRAIB</li> <li>• African Land Survey</li> </ul>	<p>Provide assistance to communities near forest reserves and sacred forests in the management and sustainable use of biological and forest resources.</p> <p>Manage community engagement activities and organize participatory planning activities</p>	Promote the sustainable use of the local forest and biodiversity resources
<b>National Associations and Trade Groups</b>		
National Association of Kings of Benin ( <i>Association Nationale des Rois du Bénin</i> )	Improve the legal framework related to the role of local kings ( <i>têtes couronnées et rois du Bénin</i> )	Protection of sacred forests and sacred sites
National Association of Practitioners of Traditional Medicine of Benin (ANAPRAMETRAB)	Promote the use of medicinal plants, regulate the practice of traditional medicine and administer externally funded projects related to traditional medicine	Sustainable use of plants in the practice of traditional medicine
<b>Local government, trade groups, community organizations and interest groups</b>		
Municipalities/Mayor	Define the direction and implement the local development strategy related to natural and forest resources located within the municipal boundaries	Promote the sustainable use of the local forest and biodiversity resources



Stakeholder	Roles and Responsibilities	Mandate
Local Association of Practitioners of Traditional Medicine ( <i>Association Communale des Tradithérapeutes</i> )	Promote the use of medicinal plants and sustainable use of sources of plant material used in traditional medicine (sacred forests and botanical gardens)	Promote the sustainable use of medicinal plants used in traditional medicine
Mediation Tribunal ( <i>Tribunal de Conciliation</i> )	Facilitate conciliation in case of land tenure and access to sacred forests conflicts involving traditional authorities and users of forest resources	Promote social peace and conciliation
Local Forestry Inspections ( <i>Cantonnement</i> )	Supervise and enforce regulations related to biological and forest resource exploitation and conservation	Promote the sustainable use of the local forest and biodiversity resources
Environment and Public Lands Commission	Ensure the strategic management of the municipal environment and the natural resources located within municipal borders	Promote the sustainable use of the local forest and biodiversity resources
Municipal Association for Development ( <i>Association communale de développement</i> )	Promote the socio-economic development of the municipality	Poverty reduction and food security
Community association of ranchers and herders ( <i>Union communale des organisations professionnelles d'éleveurs de ruminant</i> (UCOPER))	Promote the improvement of ranching and herding practices and the rational use of grazing resources	Poverty reduction, food security and prevention of user conflicts (transhumance)
Municipal Section for the protection of nature	Oversee and enforce municipal regulations on biological and natural resources exploitation	Promote the conservation of local forest and biodiversity resources
Women's Group (community organization)	Facilitate the collection of NTFP from the sacred forest and fuel wood (dead wood)	Poverty reduction
Community-based economic interest groups (farmers, cattlemen, gardeners, nursery)	Promote the development of economic activities to generate employment and revenue	Poverty reduction
Hunters Committee (community organization)	Manage wildlife (game) resources associated to buffer zones and sacred forests	Poverty reduction and food security
<i>Traditional and village authorities</i>		
Village chief	Exercise political authority over village forest resources	Conservation of natural resources
Traditional chief (King/Land chief)	Exercise traditional authority on sacred forests as guardian or steward. Ensure protection and facilitate access to sacred forest resources	Protection of sacred forests and sites of traditional religious rituals
Community chief ( <i>Chef collectivité</i> )	In charge of religious ceremonies and guarantor of traditions related to voodoo rituals	Protection of cultural and religious traditions
Sacred forest management Committee	Organize the surveillance of the use of sacred forest resources	Conservation of sacred forest and its resources
Voodoo priest ( <i>Féticheurs</i> )	Perform rituals and ceremonies related to voodoo religious practices in sacred forests	Protection of cultural and religious traditions

## BASELINE ANALYSIS

35. As mentioned earlier, Benin lost 160,000 ha of forest cover per year between 1978 and 1998 (CENATEL, 2002) and between 1990 and 2005 the country had the fourth highest deforestation rate in the world at 31%, when less than 4% of its original forests remained (World Resources Institute, Greenpeace). At such a rate (almost 2% between 2000 and 2005), it is quite inevitable that sacred forests are under imminent danger of disappearing.

36. Encroachment by commercial and subsistence farming, population growth, harvesting of wood for fuel and charcoal making, grazing and transhumance and overexploitation of medicinal plants found almost exclusively in sacred forests, are only a few of the threats pending over these unique patches of forest, true islands of biodiversity with vital connectivity with larger ecosystems and picturesque remnants of the original forest cover transformed by centuries of human intervention. Sacred forests survive only because they are "sacred" and under the stewardship of local kings, village chiefs and voodoo priests. Yet, the threat level will likely increase in the business-as-usual situation and sacred forests may decrease in size or totally disappear, together with the biodiversity that they harbour.

37. Several programmes, projects and initiatives have been supporting forest development and conservation in Benin, as well as natural resource management. Some are focused on the conservation of protected areas, parks such as the W and the Pendjari, including the surrounding zones. At the same time, the issue of land governance with respect to sacred forests will likely remain unaddressed if no specific programme is set in motion to afford some form of protection to these forests.

38. Several studies on sacred forests and their ethnographic importance have been carried out and some, among those, have recognised that there might be a potential to explore in terms of sacred forests' role in conservation of forest resources. This potential has remained unexplored.

39. The market for traditional medicine based on plants in Benin has a certain importance as a sector of the national market for medicine. Demand for traditional medicine may also experience grow. Still, the plant resources upon which traditional medicine is based may start to be extracted beyond their natural regeneration capacity threatening the very resource base.

40. It is against this background that the project has been conceived. Recognizing the critical state of many of these sacred forests, the Government of Benin has requested assistance from UNDP/GEF to prepare a conservation management project to save this important component of the country's natural heritage whilst also protecting the remnants of traditional religion and culture associated with sacred forests.



## PART II: STRATEGY

### PROJECT RATIONALE AND POLICY CONFORMITY

#### *Fit with the GEF Focal Area Strategy and Strategic Programme*

41. The proposed project is consistent with the goals of GEF Biodiversity Strategic Objective 1 (SO1) "Catalyzing Sustainability of Protected Area Systems" (and under it, Strategic Program 3 (SP3) "Strengthening Terrestrial Protected Area Networks") but also, as a secondary priority, the goals of SO2 "Mainstreaming Biodiversity in Production Landscapes/Seascapes and Sectors" (and within it, SP4 "Strengthening the Policy & Regulatory Framework for Mainstreaming Biodiversity")<sup>5</sup>. The project will, as part of component 1, establish a new class of protected areas for Benin, sacred forests, as managed resources areas that will serve to increase the area under effective PA administration for biodiversity conservation and sustainable use, and disseminate good forest stewardship practices based on existing traditions and beliefs that are typical of Benin. In this manner, the project will strengthen the country's system of PAs by developing and testing new models for community participation in PA management, practices that can also be applied to management of PA riparian areas within the "formal" PA system. The project will also at the same time foster the good stewardship of lands within sacred forests and in the surroundings through actions foreseen under component 2, intervening therefore at the landscape level and at the level of land management practices that have a bearing for the sustainable use of biodiversity. Under component 3, sustainable use of sacred forests' biological and cultural resources as well as NTFP will be developed as demonstration activities geared at producing employment and income at the village level. Sustainable exploitation practices of selected products within the context of sacred forests will be disseminated among resource users as an attempt to further mainstream good biodiversity stewardship into those practices.

42. This project will capitalize on the contribution that sacred forests in Benin can make to the sustainable use of biodiversity in Benin through their incorporation into the formal PA system as a new category with clear objectives, management rules and institutions at national and local scale, but also with appropriate incentives that underpin good forest stewardship (i.e. property and usufruct rights). This will also be achieved by promoting techniques for the sustainable use of key resources extracted from these areas. The project will work in collaboration with traditional healers, herbalists, resource managers and decision makers, including the Ministry of Environment and Nature Protection, which manages PAs, and the Minister of Public Health which officially registers traditional healers, and the *Association Nationale des Rois du Bénin*, that congregates traditional leaders.

43. The project strategy can be thus summarized: ***Component 1 - Degradation and encroachment of Sacred Forests halted***: This component will establish an institutional framework that will be essential in stopping the degradation of and encroachment upon sacred

<sup>5</sup> It is hereby assumed that in terms of a project's alignment with Strategic Objectives (SO) 1 or 2 of the GEF's Biodiversity Focal Area Strategy, there is a gradient of possibilities in between. Using the terminology commonly adopted in the context of the CBD, SO1 interventions would be closer to 'conservation' objectives, whereas SO2 closer to 'sustainable use'. This project is aligned with both and shows how an approach that still builds on the benefits accrued from PAs gradually evolves to also seek benefits from sustainable use of biodiversity at the landscape level.

forests, including the clear definition of roles and responsibilities for their management (State, local communities, traditional leaders). For the first time, sacred forests will be comprehensively identified and procedures for the mapping/demarcation will be designed and tested. Sacred forests will also be provided legal recognition as community conservation areas and, based on this new status, they will be integrated into Benin's decentralized natural resource management frameworks. As formally established conservation areas with strengthened land-tenure rights, the basis for their sustainable stewardship will be established. The project will enhance the capacity of traditional leaders/healers, adjacent communities and other stakeholders for the sustainable management of biodiversity in sacred forests.

44. **Component 2 - Biodiversity is conserved and sustainably used in 6 clusters of Sacred Forest:** Project funds will focus on supporting pilot communities with planning, decision-making and monitoring for the sustainable use of sacred forests and their biological and genetic resources. Site committees and village cooperatives will be supported. Management planning will involve local communities through the leadership of traditional custodian of sacred forests and other stakeholders with a view to avoiding land clearance within and in the surrounding areas of sacred forests, but also by establishing general thresholds for the extraction and consumption levels of selected forest species<sup>6</sup>. Regulations, norms and controls over the extraction and consumption of forest resources will be strengthened through new forms of community management that will bring together the central State, local authorities, traditional religious groups and other partners (NGOs, research centres, and traditional medicine traders). These same partners will also undertake biodiversity monitoring activities for the first time at these pilot sites.

45. **Component 3 – Sustainable use models around sacred forests are implemented on a demonstration basis:** Achieving sustainable resource use around sacred forest has been determined as a key element for the long-term conservation of these endangered ecosystems. The PPG exercise has established that given the experience acquired in the country through other projects and the resources base available there are at least three sustainable use potentials which this project can support, namely: (a) Medicinal Health Plants (MHP) production, (b) sustainable NTFP (including *Garcinia kola*), small animal husbandry (grasscutters), apiculture, heliculture and mushrooms, and (c) ecotourism and cultural tourism. Each sacred forest cluster will have its particular mix of these potentials and the communities around each sacred forest will have particular aptitudes for developing specific activities. The design and implementation –on a pilot basis, of these sustainable resource utilization models, will be strengthened by incorporating lessons learned and by partnering with externally funded initiatives such as PAGEFCOM, PGFTR, ProCGRN, PAMF, PP-FRANC<sup>7</sup> among others. Research entities<sup>8</sup> and academic institutions<sup>9</sup> will also be involved. Most of these on-going natural resources management projects are coordinated by the Ministry of the Environment and Nature Protection (MEPN) and implemented by the DGFRN (see Annex 3 for a detailed description of these projects).

<sup>6</sup> Species selection for Component 2 will focus on their ecological role. Component 3 will in turn focus on NTFP with commercial value.

<sup>7</sup> Projet de Promotion de la Filière des Ressources Alimentaires Non-conventionnelles (PP-FRANC) (2001 – 2005)

<sup>8</sup> Center for International Forestry Research (CIFOR) has conducted some studies on *Garcinia kola* in Nigeria

<sup>9</sup> University D'Abomey – Calavi



46. On site implementation of these activities will proceed through the following steps: (1) participatory planning to establish needs, priorities and potentials and define a natural resource conservation plan (NRCP) and a village plan (VP), (2) establish a community-based structure to oversee and monitor activities integrating traditional authorities into an executive committee and a consultative committee –the latter integrates all community stakeholders as well as municipal and external stakeholders, and (3) carry out a set of productive activities (village plan) as well as conservation and resource restoration actions in the buffer zone and near villages (natural resources conservation plan). The productive village activities could involve among other options: (i) ex-situ planting of MHP used in traditional medicine, (ii) sustainable extraction of NTFP from the sacred forest and from botanic gardens to generate marketable products, (iii) ethno- and ecotourism activities involving natural features of sacred forests as well as the cultural and religious heritage associated with their conservation and use, (iv) domestication and propagation in special gardens of rare and valuable tree species (*Garcinia kola*, *Khaya senegalensis*), (v) domestication and production of grasscutter (*Thryonomys swinderianus*) as a traditional source of protein, (vi) apiculture and (vii) cultivation and processing of mushrooms of which the *Lactarius Gymnocarpoides* (*Russulaceae*) and *Macrocybe Lobayensis* (*Tricholomataceae*) are perhaps most commonly used.

47. All of these activities –whose development and implementation has already been tested in Benin (although in limited scale), will require community organization, on-site training, technical assistance and initial financial support. The PPG phase of this project has identified potential partners who could to a large extent, provide organizational, technical and financial support to carry out these activities. Finally, the activities of the NRCP include: (i) planting tree boundaries around sacred forests and in the buffer zone to be used for fuel wood production, (ii) improve the connectivity of sacred forest through conservation and restoration of natural habitats extending from the sacred forests towards protected areas, gallery forest, swamps and other natural ecosystems, (iii) establishment of multiple-use buffer zones designed to protect the sacred forest from direct and indirect threats, (iv) planting of botanic gardens for medical herb production, (v) low intensity agro-forestry activities, (vi) planting of analog forest, biofuel-woodlots and orchards. Finally, buffer zones could be extended to create conservation corridors for improved connectivity to other sacred forests, protected forests nearby, or connecting into the surrounding landscape such as riparian corridors. It is clear that the key elements of this project component –the natural resource conservation plan and the village plan, are integral parts of the same strategy to conserve sacred forests in Benin.

48. The project will generate global biodiversity benefits by sustainably using biodiversity resources within sacred forests covering almost 20,000 ha of uniquely rich and managed habitats in Benin (includes target sacred forests with some 7,600 ha and surrounding areas). The benefits are mostly derived from the increased security that these areas will afford (land-tenure and usufruct rights), which will ensure the maintenance of *refugia* for rare plants and small fauna and the maintenance of corridors. In addition, the strengthening and systematisation of the collective and embedded indigenous knowledge of biodiversity utilisation and management can be applied to the rest of Benin's system of protected areas, but equally to other countries in the region and in the world, where forests and other ecosystems protected by sacred beliefs exist. By working to protect clusters of sacred forests, the project seeks to ensure the ecological viability of remaining patches, and that the ecological connectivity function provided by sacred forests is sustained,

extending the impact of the project to the areas beyond the immediate 20,000 ha of existing sacred forests.

#### ***Rationale and summary of GEF Alternative***

49. **In the baseline situation**, Benin's sacred forests will vanish rapidly and with it important biodiversity resources of still unknown value. Most importantly, the country will lose the potential to improve the livelihood of many villagers living near sacred forests and ancient traditions, religious practices and a rich cultural heritage will be lost forever. The total amount of area represented by sacred forests is not significant within Benin's system of protected areas, yet many of these patches of forest represent remnants of the original vegetation with important species of plants and animals rare or threatened at the national and regional level. Many sacred forests of Benin also represent an important repository of medicinal plants widely used across Benin and their scattered distribution and connectivity with wetlands and gallery forests constitute critical resting areas for migratory birds, some flying across Africa all the way from Europe. Encroachment of sacred forest from farming activities and urbanization, degradation of the ecosystem from overexploitation of its resources, bush fires, overgrazing and charcoal making which affect biodiversity and diminish ecosystem services can only be prevented through a set of conservation activities geared at reestablishing user controls and usufruct rights, buffering the forests areas with sustainable use zones and improve connectivity and through the participation of the surrounding communities in these conservation and sustainable use efforts.

50. **In the alternative GEF scenario**, systemic and institutional barriers will be removed and Benin's sacred forests incorporated into the national system of protected areas as community conservation areas. Conservation and sustainable use of forest resources, supervised by the Ministry of the Environment and implemented by the communities surrounding the forests, will also strengthen the forest stewardship role of traditional authorities including village chiefs and local kings who have protected and managed these forest patches for centuries. The benefits derived under the alternative-GEF scenario will be global, national and local and will be measured in terms of ecosystems conserved, threatened species preserved, traditional religious practices and beliefs maintained and ecosystem services multiplied. Through project intervention sacred forests will be better connected with adjacent ecosystems and protected areas, conservation corridors established, degraded areas restored, wooded buffer zones planted, sustainable use zones established and a mix of marketable products and services derived which will enhance living conditions of surrounding communities. By project's end, Benin's protected area system will include samples of forest ecosystems presently absent or under-represented and in many cases and protect valuable plant and animal species closely associated with the natural, cultural and religious heritage of the country. Finally, implementation of this project will establish effective models for community participation in conservation and sustainable use of biodiversity resources which can be replicated in Benin and the entire region.

51. The project will (a) integrate a sample of sacred forests across the country (58 sacred forests selected according to ecological and socio/cultural criteria) into Benin's system of protected areas declaring them community conservation areas, (b) implement alternative forest management approaches that integrate traditional practices, village leadership and modern forest management techniques (including forest restoration and reforestation) and (c) promote a set of



sustainable activities –including ecotourism, buffer zone management for the production of fuel wood, medicinal plant production and NTFP, in support of tangible and sustainable improvements in the living conditions of the surrounding communities.

52. During the PPG exercise an interdisciplinary team visited over 80 sacred forests across the entire country assessing not only their ecological condition but also analyzing the socio-cultural context within which they survive. Table 2 shows the 10 clusters of sacred forests selected for this project and their distinctive features. Annex 5 contains a list of all 58 sacred forests included in this project, their location and biodiversity as well as religious value. The selection process considered the sacred forests ecological connectivity, their relative size and ecosystem integrity, the sacred forests' religious and spiritual significance and the biodiversity potential. The data collected provides a strong baseline to measure project impact over time.

53. The PPG team grouped the 58 selected sacred forests into ten clusters (see Figure 4, above) within which the forest patches, some small (3 ha) others relatively large (1,500 ha), are interconnected or adjacent to protected areas or part of still functioning natural ecosystems (coastal lagoons and marshlands). Community awareness and presence of traditional leadership were also considered when choosing the sites, as was the uniqueness, rarity or threatened status of the biological resources contained therein. The team invested significant time in approaching and interviewing different stakeholders in order to assess the possibility of implementing viable, participatory and collaborative conservation management approaches involving traditional authorities and voodoo priests, municipal governments, practitioners of traditional medicine, local community groups and NGO, as well as forestry technician representing the national forest entity. This strategy helped the team in identifying basic elements for the project implementation arrangements, especially in view that there is presently little experience in participatory conservation management models.

54. Finally, the PPG team assessed the potential of developing the resources contained in sacred forests in terms of and sustainable products and services including ecotourism and ethno-tourism, botanical gardens to produce marketable fruits and medicinal plants and controlled extraction of plant material used in traditional medicine and healing practices.

## **PROJECT GOAL, OBJECTIVE, OUTCOMES AND OUTPUTS/ACTIVITIES**

55. **The project's goal** is to conserve globally significant biodiversity in Benin by protecting and sustainably managing biologically and culturally significant forest resources.

56. **The project objective** is to promote the sustainable use of Benin's Sacred Forests as a network of community-managed conservation areas incorporated into the national system of protected areas.

In order to achieve the above objective, and based on a barrier analysis (see Section I, Part I), which identified: (i) the problem being addressed by the project; (ii) its root causes; and (iii) the barriers that need to overcome to actually address the problem and its root causes, the project's

intervention has been organized in three components (also in line with the concept presented at PIF stage), under which three 'outcomes' are expected from the project:

*Outcome 1: Degradation and encroachment of Sacred Forests halted*

*Outcome 2: Biodiversity is conserved and sustainably used in 10 clusters of Sacred Forests*

*Outcome 3: Sustainable use models around sacred forests are implemented on a demonstration basis*

57. Outcome 1 will deal with both the governance framework (policies, laws and strategies) necessary for the integration of sacred forests into Benin's system of protected areas and the operationalization of ten sacred forest clusters selected during the project preparatory phase (PPG). This outcome will provide the institutional legitimacy and the legal mandate required to implement project interventions geared at protecting biodiversity and sustainably using forest resources. Outcome 2 will establish the on-the-ground management structure to actually carry out conservation actions such as securing sacred forest boundaries; establish community-based conservation and sustainable use committees; protect and restore biological corridors, plant or maintain buffer zones and tree avenues, etc. This outcome will involve intense community consultation and participation and the collaboration of traditional authorities, municipal governments and forestry entities. Finally, Outcome 3 will involve the implementation of sustainable use packages including MHP, NTFP, ecotourism and environmentally friendly production system chosen from a basket of options according to the potential of each site. This outcome will require significant efforts and investments in capacity building component, technical assistance, biological research and value chain analysis and monitoring.

#### **Outcome 1: Degradation and encroachment of Sacred Forests halted**

58. Under Outcome 1, more than 50 sacred forests -chosen during the PPG exercise according to geographic, biological diversity and socio-cultural criteria and grouped in 10 clusters, will be incorporated into the national system of protected areas. This addition is not very significant in terms of quantity (see table 1), but rather in terms of quality of the biodiversity resources protected as the sacred forests -brought into the system as community conservation areas, represent remnants of fast disappearing ecosystems, biogeographic islands, refuges of rare or endangered plant and animal species and resting sites for migratory birds not otherwise represented in Benin's system of protected areas. Moreover, these forest areas only exist in the midst of a mosaic of farmlands and savannahs and have resisted encroachment and tremendous pressure from unsustainable resource utilization because of their historic, cultural and religious significance. This outcome will (i) establish the legal and regulatory framework which will secure land tenure as state lands, (ii) strengthen the role (and social status) of traditional authorities as traditional guardians of sacred forests and (iii) enable community participation in the management of these forests by promoting sustainable resource exploitation within the forests (MHP and NTFP) and in the surrounding buffer zone.

59. The outputs necessary to achieve this outcome are described below.



*Output 1.1 Policy and legal framework to allow for PA expansion through the incorporation of sacred forest as community conservation areas.*

GEF will support changes in the country's regulatory framework that will enable the DGFRN to expand Benin's system of protected areas to incorporate community conservation areas covering more than fifty sacred forests across the entire country. There is considerable support by community and traditional authorities to legally establish community-based conservation management systems to protect the biological and cultural values of sacred forests. Moreover the Ministry of Environment through the DGFRN has demonstrated strong support to develop a new regulatory framework that will provide land tenure security and a conservation management structure to Benin's sacred forests. Finally, the DGFRN has committed resources and political will to implement this project starting with legal and regulatory changes that allow the national system of PA to be expanded and to incorporate sacred forests as community conservation areas. Activities may include the drafting of specific legislation, the conceptualization of a National Sacred Forests Programme for Benin, to allow the mobilization of additional funding for supporting a wider network of sacred forests in Benin beyond the pilot ones and allowing the continuation of activities beyond the end of this project.

*Output 1.2 Institutional changes facilitating the adoption of a new management structure for sacred forests with the participation of the community and traditional authorities.*

GEF will support the required training, capacity building and institutional changes that will facilitate the DGFRN (and relevant local entities) to engage in participatory design and implementation of new management models for sacred forests, including co-management schemes, whenever appropriate. Capacity building will involve workshops and formal training in participatory planning, stakeholder analysis and practical tools required for community-based and community-driven conservation management arrangements. Given the historical role in protecting sacred forests of traditional authorities, the new role of municipal authorities and the supervisory role of Benin's forest service agents, training will include consensus building and conflict resolution components. This aspect of the training effort will be essential in building confidence and community support for the implementation of new conservation management arrangements which in the case of sacred forests, must involve village chiefs, local kings, traditional healers and voodoo priests, among others. Finally this output will contribute towards the institutional strengthening of the DGFRN and the local forest agents to effectively deal with participatory conservation management arrangements involving sacred forests. Activities have ample support and co-financing from local communes. During the initial phase of project implementation the institutional structure for project execution will be defined as well as clear roles and responsibilities for project supervision and management defined at the central and local levels. This output will entail the training of local managers and forest extension agents to provide support to the sustainable management of Sacred Forests as a new PA category.

*Output 1.3 Sacred forest participatory planning exercises to enable conservation management and sustainable use of buffer zones.*

The project will support participatory planning exercises to produce systematic village plans (VP) and natural resource conservation plans (NRCP) for at least 30 of the sacred forests selected. The planning exercise will emphasize integration of conservation measures, sustainable management and expansion of buffer zones and protection and restoration of connecting biological corridors. Sustainable natural resource conservation planning will involve spatial mapping of the sacred forest, proposed buffer zones, connecting forests and surrounding community managed areas, its vegetative cover and the building of time series data sets to reveal resource trends and changes over time. The baseline data from the monitoring programme will be used to verify the planning process and to identify priority treatment areas based on current status, ongoing threats, and future role in conservation management objectives. The planning process will describe the flora and fauna resources, their status and threats, and agree on priorities and potential management interventions. Most importantly, it will identify areas through which controlled silviculture interventions will be used to recreate or re-establish forest structures that replicate or mimic habitat for important flora and fauna.

*Output 1.4 Policies and initiatives create and support incentives for good forest stewardship in Sacred Forests*

GEF support in this project will be used to catalyze relevant processes leading towards the formulation of policies and the creation of incentives (e.g. provision of specialized extension services, micro-credit) so as to foster sustainable management of forest resources and good stewardship of sacred forests. A number of on-going natural resources management projects implement similar initiatives which could be brought to bear in this project through the planned partnerships and the coordination of actors and activities.

**Outcome 2: Biodiversity is conserved and sustainably used in 6 clusters of sacred forests**

60. GEF will support the establishment of local committees and management structures with the mandate and capacity to ensure adequate protection of biodiversity resources within at least 6 clusters of sacred forests. Activities associated to this outcome will involve interventions at both the sacred forest level as well as in the surrounding buffer zones and connectivity corridors and will require the participation of communities and traditional authorities. Demarcation and corresponding management plans will be developed for protected areas, buffer zones and sustainable production areas in at least 58 sites within 10 clusters. Biodiversity-friendly activities will be promoted in the buffer zones and connectivity corridors of at least 50 sacred forests implemented through participatory arrangements and partnerships with community groups, NGO, religious authorities and traditional healers. Finally, in partnership with research institutions, the project will support the establishment of adequate baselines and effective monitoring systems and the data obtained will contribute towards a "Sacred Forests Knowledge Repository, Exchange and Monitoring System"



61. The outputs necessary to achieve this outcome are described below.

*Output 2.1 Local forest management institutions are created and sustainably maintained.*

GEF support will enable the creation and initial maintenance of local forest management institutions (e.g. site committees, village cooperatives) with the mandate and capacity to conserve the biodiversity resources contained in 58 sites within 10 sacred forest clusters. These community-based institutions will assume planning, monitoring, enforcement and decision-making functions enabling them to adequately manage sacred forests as community protected areas. The project will support capacity building and implementation of sustainable management activities inside sacred forests and in the buffer zones and connectivity corridors designed to reduce pressure on protected biological resources such as community woodlots, botanic gardens and beekeeping.

*Output 2.2 Buffer zones and connectivity corridors are demarcated and the corresponding sustainable management plans prepared.*

The project will support participatory planning exercises to define sustainable uses and conservation actions in buffer zones and connectivity corridors especially designed to reduce pressure on protected resources and maintain ecosystems functions of protected sacred forests. These participatory exercises will enable demarcation of special use zones, buffer areas and biological corridors to improve connectivity between sacred forests within the cluster and between clusters in at least 58 sites within 10 clusters. Management plans for these areas will enable local actors and project supervisors to establish base lines and set realistic goals in terms of conservation and sustainable resource utilization.

*Output 2.3 Partnerships agreements reached between different levels of government authorities, traditional religious groups and other partners.*

The establishment of effective conservation management arrangements for sacred forests will entail the concerted effort of all stakeholders (*traditional authorities, community groups, NGOs, research institutions<sup>10</sup>, traditional medicine practitioners, etc.*). For this reason the project will pursue the signing and implementation of relevant partnership agreements leading towards the effective management of protected areas and the sustainable co-management of Sacred Forests. This output will entail the strengthening of community based organizations around conservation and sustainable utilization of natural resources issues. Capacity building programs will be used to promote partnerships agreement that will in turn strengthen the capacity to control resource use, enforce user limitations and promote the conservation of the biodiversity resources of sacred forests.

*Output 2.4 Biodiversity monitoring systems developed and data contributing towards a "Sacred Forests Knowledge Repository"*

<sup>10</sup> Centre Pilote Régional de la Biodiversité Africaine (CENPREBAF), Laboratoire d'Ecologie Appliquée (LEA) de la Faculté des sciences Agronomiques Université d'Abomey Calavi-Cotonou.

GEF will support the design and implementation of a biodiversity monitoring system starting with the establishment of a baseline and simple methodology to monitor changes and improvements in biodiversity conservation to be obtained from reduced pressure on protected forest resources, improved management of buffer zones and effective conservation and biodiversity-friendly use of conservation corridors. With project support a monitoring system of this kind will be established and maintained in at least 58 sites within 10 clusters. The monitoring system will be developed in partnership with competent academic and research institutions and the data produced will contribute towards a "sacred forests knowledge repository".

### **Outcome 3: Sustainable use models around sacred forests are implemented on a demonstration basis**

62. The third component of this project will promote sustainable uses of sacred forest resources and develop baskets of alternative and site-specific use regimes to be implemented by surrounding communities in partnership with traditional authorities and competent research institutions.

63. The outputs necessary to achieve this outcome are described below:

#### *Output 3.1 Sustainable use regimes defined in partnership with research institutions and through participatory planning processes.*

Because of their bio-geographic nature and traditional use practices, sacred forests tend to have higher concentrations of useful, rare and threatened plants<sup>11</sup> (e.g. *Garcinia kola*) and animal species (e.g. *Psittacus erithacus* and *Colobus vellerosus*) per unit area than what would be usually found outside sacred forests and the surrounding landscape. In addition, this natural heritage is usually associated with a rich cultural and religious heritage maintained by traditional authorities and voodoo priests. This combination offers a significant potential to sustain productive activities in and around sacred forests. GEF support will facilitate applied research on useful plants and animal species to be harvested sustainably within sacred forests and in their buffer zones. Uses such as tourism attracted by natural as well as the cultural and religious values of sacred forests would also be explored. Research institutions in partnership with traditional authorities will lead participatory planning processes designed to select those uses and productive activities most suited to the communities and the market potential of available resources. Consultations with research facilities and institutions were incipient during the PPG phase and will need to be more carefully planned during the project inception. The aim is the development of partnerships that involve science and community participation for the benefit of sacred forests' biodiversity and its users. A budget allocation has been reserved for the purpose.

<sup>11</sup> For example MEHU/PNUD (2002), which is the 'Traditional Knowledge Report', published in 2002 in connection with the NBSAP Add-On project.



*Output 3.2 Sustainable production kits for NTFP, medicinal plants and ecotourism services developed in partnership with research institutions, community groups and NGO.*

GEF will support basic studies and applied research by competent entities to establish baselines, sustainable extraction thresholds, reproduction/regeneration methods, transformation technology and marketing strategies. NTFP, Medicinal Health Plants (MHP), grass cutter and other small animal reproduction program as well as ecotourism potentials will be explored based on previous experience, community aptitude and preference, availability of resources from the sacred forests and their buffer zones and the rural landscape around them. Research entities will incorporate lessons learned from other projects especially in regard to medicinal plant production and review the experience of the GEF/WB project in Ethiopia as well as Benin's own experience with the Small Grants Programme. The entire production chain and the marketing strategy will be developed as to ensure sustainable benefits over time and maintenance of the production system. Research institutions in coordination with forest management authorities will emphasize the design of sustainable use packages which reinforce conservation efforts in and around sacred forests. A package of grants to local NGOs / CBOs has been reserved in the budget for the purpose.

*Output 3.3 Implementation on a pilot basis of sustainable use packages in 10 sacred forest clusters.*

GEF will support the implementation on a pilot basis of at least 30 sustainable use packages involving a mix of (a) MHP production, (b) sustainable NTFP (including *Garcinia kola*, *Khaya senegalensis*), small animal husbandry (grasscutters), apiculture, heliculture and mushrooms, and (c) ecotourism and cultural tourism. Each forest cluster and sacred forest will have a different mix of the above ingredients or develop different ones. Competent research institutions in coordination with traditional, municipal and forest authorities will provide training and technical and financial assistance to the community groups in charge of implementing the productive activities including traditional healers, women groups, tourism agents and other special interest groups. While management and administration of these productive activities will be charged to the community groups, research entities and local authorities will maintain a supervisory and monitoring role in order to ensure that resources are adequately exploited, thresholds maintained, technology efficiently applied and marketing strategies implemented so as to ensure economic and environmental sustainability of these pilot projects. The activities of this output will capitalize the experience acquired by other projects being implemented in Benin with similar objectives and dealing with conservation and sustainable use of natural resources.

## PROJECT INDICATORS

64. The project indicators contained in Section II / Part II (Strategic Results Framework) include only impact (or 'objective') indicators and outcome (or 'performance') indicators. They

are all 'SMART'<sup>12</sup>. Experience across the UNDP/GEF portfolio shows that a small number of SMART and high-level indicators is the best way to monitor a project.

65. The project may however need to develop a certain number of process-oriented indicators to compose the 'M&E framework' at the site level. For this reason, activity 3.3 foresees exactly the establishment of a 'site-level M&E framework'. This site-level framework will ensure that project impacts are obtained and that the activities are sustainable over time. These indicators are also expected to feed into the project's overall M&E framework. It is envisaged that the project's overall M&E framework will build on UNDP's existing M&E Framework for biodiversity programming.

66. The organization of the logframe is based on the general assumption that: *if* (1) Benin's sacred forests are officially declared community conservation areas and as such eligible to become part of the national system of protected areas; *if* (2) communities, traditional and municipal authorities and forest agents agree on a conservation and sustainable use strategy for sacred forests involving also buffer zones and conservation corridors; *and if* (3) a number of sustainable use regimes are implemented in key sacred forest clusters to provide tangible benefits to surrounding communities; *then* the sustainable use of Benin's sacred forests as a network of community-managed conservation areas incorporated into the national system of protected areas will become a reality and a model for conservation in Benin and in the region. This logic is based on the barrier and root-cause analysis carried out during the PPG phase (refer to Section I, Part I, chapter 'Long-term solution and barriers to achieving the solution'). In turn, the choice of indicators was based on two key criteria: (i) their pertinence to the above assumption; and (ii) the feasibility of obtaining / producing and updating the data necessary to monitor and evaluate the project through those indicators. The following are therefore the project's key indicators:

**Table 4. Elaboration on Project Indicators**

INDICATOR	EXPLANATORY NOTE
<b>At objective level: To promote the sustainable use of Benin's Sacred Forests as a network of community-managed conservation areas incorporated into the national system of protected areas</b>	
1. Sacred forests distributed across Benin are protected and legally established as community-managed conservation areas	<ul style="list-style-type: none"> <li>▪ A key indicator of project impact is the legal recognition of sacred forests as community protected areas thereby bringing these areas under the jurisdiction of the DGFRN in charge of forests and conservation in Benin. This action will secure the land tenure status of sacred forests, strengthen local authorities' <i>traditional forest stewardship function and include important biodiversity values</i> into Benin's system of protected areas. Even though formulation and implementation of the required legal and regulatory framework might take time, the project will make presence on 58 sacred forests in 10 clusters across the country, establishing an important precedent that will aid conservation efforts in other sacred forests as well. The legal status of sacred forests as community conservation areas is a requirements for project implementation and hence a good success</li> </ul>

<sup>12</sup> Specific, Measurable, Achievable, Relevant and Time-bound



INDICATOR	EXPLANATORY NOTE
	indicator.
2. Status of emblematic species (plant or animal) within each sacred forest cluster	<ul style="list-style-type: none"> <li>▪ As project interventions will focus on forest areas containing some rare and threatened plants (<i>Garcinia kola</i>) and animal species (<i>Psittacus erithacus</i> and <i>Colobus vellerosus</i>) among others, these species will become indicators of effective conservation action. A simple baseline of emblematic and/or rare species will be established within each one of the 10 sacred forest clusters at the start of project activities. Subsequent monitoring will establish the impact of conservation actions and project intervention.</li> </ul>
3. Number of forest management and conservation committees established at the village level	<ul style="list-style-type: none"> <li>▪ All activities related to conservation and sustainable use of sacred forest resources will be planned and implemented through participatory processes. Both the planning phase as well as the implementation phase will require the establishment of village-level committees. Most probably, the number of these committees reflects participatory processes leading towards the definition of conservation and management strategies as well as sustainable use regimes and as such, clear indicators of project advances.</li> </ul>
<b>At outcome 1 level : Degradation and encroachment of Sacred Forests halted</b>	
1. Increased scores on the GEF4's PA Management Effectiveness Tracking Tool "METT" for all ten clusters of sacred forests	<ul style="list-style-type: none"> <li>▪ The METT Tool provides a comprehensive measure of management effectiveness improvements over the baseline, both in absolute terms and as a percentage. The METT is a compulsory indicator tool in all GEF protected area projects (see Annex 5 for the complete METT prepared for this project). One clear constraint is that the METT assessment is focused in particular on individual areas, while the project aims at managing the sacred forests as clusters. Other techniques may also be developed and applied by DGFRN during the inception phase (e.g. RAPPAM, where a stronger focus on ecosystems can be sought) for compensating any bias.</li> </ul>
<b>At outcome 2 level : Biodiversity is conserved and sustainably used in 6 clusters of sacred forests</b>	
1. Increased scores on the UNDP's Capacity Development Scorecard for Protected Areas Management over the baseline	<ul style="list-style-type: none"> <li>▪ The UNDP's Capacity Development Scorecard for Protected Areas Management provides a comprehensive measure of capacity improvements over the baseline, covering individual, institutional and systemic capacity levels. As a tool widely used in UNDP/GEF protected area projects, it can be easily applied by a relevant group of stakeholders. Its results may be independently validated through project evaluations. For the submission (representing the baseline), the Scorecard was applied by the PPG team (Annex 4). New measurements will take place at mid-term and at project end in connection with evaluations.</li> </ul>
2. Visible boundaries established around sacred forests	<ul style="list-style-type: none"> <li>▪ The PPG field work has established that many sacred forests are invisible to surrounding communities because they lack clear boundary demarcation or border recognition. Before planning exercises to define conservation actions and establish buffer zones can initiate, each one of the selected sacred forests (58) will be clearly identified and its boundaries visibly established and marked. Though</li> </ul>

INDICATOR	EXPLANATORY NOTE
	marked boundaries do not necessarily reduce encroachment and unsustainable uses of forests resources they definitively increase visibility of the protected areas and thus entering marked boundaries also becomes more visible and thus less permeable.
3. Community-based institutions are functioning in at least 30 sites within 6 sacred forest clusters.	<ul style="list-style-type: none"> <li>▪ At project end, there will be functioning committees with the ability to plan, monitor, enforce and make decisions in relation to sacred forests conservation and sustainable use in at least 30 sites within 10 forest clusters. This indicator is more specific than the Capacity development Scorecard which will cover all 10 sacred forest clusters and 58 sites.</li> </ul>
4. Partnerships agreements reached between different levels of government authorities, traditional religious groups and other stakeholders	<ul style="list-style-type: none"> <li>▪ Collaboration and partnerships among different stakeholders around sacred forests constitute key elements of project implementation. Therefore an indicator of project success is the number of partnerships agreements signed and implemented between traditional and municipal and national authorities, between traditional medicine practitioners and trade groups and NGO, etc. between forest agents, NGO and women groups, etc. Each sacred forest cluster will have their own mix of stakeholders and therefore partnership agreements.</li> </ul>
<b>At outcome 3 level: Sustainable use models around sacred forests are implemented on a demonstration basis</b>	
1. Number of forest resources exploited in sustainable use regimes around sacred forests	<ul style="list-style-type: none"> <li>▪ The more diversified the resources base being subjected to sustainable exploitation the more resilient the model will be to market changes, production technologies and climate change impacts. And the more resilient the model the more reliable the flow of economic benefits to the communities involved in conservation and sustainable management of sacred forest resources.</li> </ul>
2. Communities perception of their livelihood stake in the good stewardship of biological resources in 10 sacred forest clusters, measured through the periodic and independent application of the 'Most Significant Change' (MSC) technique.	<ul style="list-style-type: none"> <li>▪ The MSC Technique was developed by a consortium of NGOs working in development, which includes CARE International, Oxfam, Learning to Learn (Australia), UK's Christian Aid and Exchange, Ibis and Mellempfolkeligt Samvirke (both from Denmark) and Lutheran World Relief, USA. The technique is a form of participatory M&amp;E for projects, programs and other development initiatives. It foresees that many project stakeholders are involved both in deciding the sorts of change to be recorded and in analyzing the data that corroborate both monitoring and evaluation reports. Essentially, the process involves the collection of significant change (SC) stories emanating from the field level, and the systematic selection of the most significant of these stories by panels of designated stakeholders or staff. The designated staff and stakeholders are initially involved by 'searching' for project impact. Once changes have been captured, various people sit down together, read the stories aloud and have regular and often in-depth discussions about the value of these reported changes. When the technique is implemented successfully, whole teams of people begin to focus their attention on program impact.</li> </ul>



## RISKS AND ASSUMPTIONS

67. The project strategy, described in detail within this project document, makes the following key assumptions in proposing the GEF intervention:

- Baseline conditions in the selected sacred forests can be extrapolated with high confidence level to other sacred forest areas and lessons learnt can be successfully disseminated.
- Increased awareness and management capacity will lead to a change in behaviour with respect to forest conservation and sustainable use of forest resources, thus revert the present trend of forest degradation and erosion of biodiversity within sacred forests.
- Sacred forests conservation and sustainable use will gradually become a national priority for the Ministry of Environment and the DGFRN as knowledge and information about their biodiversity value and economic development potential is made available.

68. During the PPG phase, projects risks were updated from what has been presented at the PIF stage. They were further elaborated and classified according to UNDP/GEF Risk Standard Categories<sup>13</sup> and assessed according to criteria of 'impact' and 'likelihood' (Box 3):

*Table 5. Elaboration of Risks*

IDENTIFIED RISKS	CATEGORY	ELABORATION
Low adherence by relevant groups of stakeholders (e.g. traditional authorities, healers, community groups, NGOs)	STRATEGIC	Project success will depend on the participation and commitment of all the relevant stakeholders including "the right mix" of traditional authorities, municipal and national agencies, NGOs and research centres. Government engagement in the project will ensure that the integration of sacred forests into the national system of protected areas is followed by adequate incentives for good forest stewardship provided through increased security of collective property rights and mechanisms for the incorporation of traditional rights and use regimes in Benin's laws and regulations.
Land conflict and conflict among religious groups and special interest groups may undermine the achievement of project outcomes	POLITICAL	One of the expected Outputs from Component 2 of the project is the forging of partnerships among central State, local authorities, traditional religious groups and other partners for the sustainable co-management of sacred forests. This process will be assisted by the project through participatory processes, consensus building and conflict resolution and capacity building, with the underlying agenda of pre-empting conflict that could otherwise undermine project success.
The Government of Benin assigns less	STRATEGIC	The DGFRN has throughout the PPG exercise shown strong political support and a significant level of financial commitment

<sup>13</sup> Includes the following eight categories: environmental; financial; operational; organizational; political; regulatory; strategic; and other.

IDENTIFIED RISKS	CATEGORY	ELABORATION
priority and limited support for the incorporation of sacred forests into the PA system		to the sacred forest initiative. Partnerships and strategic alliances with other DGFRN coordinated projects (PAGEFCOM, PGFTR, ProCGRN, PAMF, etc.) will optimize use of human and financial resources and maintain the institutional- political support required for success in conserving sacred forests in Benin.
Institutional territoriality, lack of training and technical assistance and conflicts between government entities and NGOs could undermine achievement of project outcomes.	STRATEGIC	The project will emphasize participatory processes involving all relevant stakeholders geared at forging effective partnerships among different actors. Traditional authorities (local kings, voodoo priests, village chiefs, healers, etc.) will be especially targeted to promote their participation in forest management and conservation arrangements based on traditional practices and religious beliefs. This recognition will strengthen their traditional role as stewards of sacred forests resources. Capacity building and organizational support across all relevant actors will prevent certain entities to dominate project implementation and alienate others in participating in the activities.
The legal framework of sacred forests is not changed and these areas cannot be incorporated into the national system of protected areas	REGULATORY	The DGFRN is committed to promote all of the necessary regulatory changes to enable sacred forests to be legally part of the public forest domain and as community conservation areas to be incorporated into the national system of protected areas.
Climate change will exacerbate habitat fragmentation of sacred forests across Benin	ENVIRONMENTAL	In the next decades, climate change will likely start having a rather discernable impact on Benin's terrestrial biodiversity, especially in Sahelian northern region. Although there are no specific studies on the possible impacts of climate change on the country's biodiversity, the general body of knowledge on climate risks to biodiversity indicate that a more variable climate and coupled with long-term changes in patterns for temperature and rainfall regimes will almost certainly affect the viability of certain species and habitats. These changes will probably not affect the biodiversity of the sacred forest clusters during the lifetime of the project, but the sustainability of the smaller and more degraded sacred forest areas may be affected in the longer run if climate change mitigation measures are not built-in from start in the design of the conservation strategy for these areas.
Significant increases in internally and externally driven pressures on sacred forest (e.g. demand for agricultural land; overharvesting of MHP and NTFPs)	ENVIRONMENTAL	The project is addressing direct threats to sacred forests' biodiversity in various ways through pilot action, including through community management and demarcation of sacred forests, addressing therefore the issue of encroachment and by controlling extraction and consumption levels of selected forest species, including those with commercial value. Measures towards the dissemination of best practices from pilot experiences will be taken.
Buffer zones and connectivity corridors cannot be established effectively and sacred forests continue losing relevance as conservation areas	ENVIRONMENTAL	Smaller sacred forests and those whose biological connectivity depends on the restoration of natural habitat and protection of gallery forests, gazetted forest and wetlands will be targeted especially in terms of technical and organizational support, training and capacity building in order to prevent further erosion of biodiversity in sacred forests and improve ecological connectivity.



*Box 3. Risk Assessment Guiding Matrix*

		Impact				
		CRITICAL	HIGH	MEDIUM	LOW	NEGLIGIBLE
Likelihood	CERTAIN / IMMINENT	Critical	Critical	High	Medium	Low
	VERY LIKELY	Critical	High	High	Medium	Low
	LIKELY	High	High	Medium	Low	Negligible
	MODERATELY LIKELY	Medium	Medium	Low	Low	Negligible
	UNLIKELY	Low	Low	Negligible	Negligible	Considered to pose no determinable risk

*Table 6. Project Risks Assessment and Mitigation Measures*

IDENTIFIED RISKS	IMPACT	LIKELIHOOD	RISK ASSESSMENT	MITIGATION MEASURES
Low adherence by relevant groups of stakeholders (e.g. traditional authorities, healers, community groups, NGOs)	High	Likely	High	Participatory planning and decision-making processes as well as capacity building and organizational support will mitigate the risk of certain stakeholders restraining from participating in project implementation at least temporarily. The Government participation will also ensure adequate incentives for good forest stewardship provided through increased security of collective property rights and mechanisms for the incorporation of traditional rights and use regimes
Land conflict and conflict among religious groups and special interest groups may undermine the achievement of project outcomes	High	Moderately Likely	Medium	Increased security of collective property rights as well as the recognition and incorporation into the new legal status of sacred forests of traditional rights and user regimes will pre-empt to a large extent conflicts over land among different interest groups, while transparent and participatory decision-making processes will pre-empt conflicts among different religious groups
The Government of Benin assigns less priority and limited support for the incorporation of sacred forests into the PA system	High	Unlikely	Low	The DGFRN has throughout the PPG exercise shown strong political support and a significant level of financial commitment to the sacred forest initiative. Partnerships and strategic alliances with other DGFRN coordinated projects (PAGEFCOM, PGFTR, ProCGRN, PAMF, etc.) will optimize use of human and financial resources and maintain the institutional- political support required for success in conserving sacred forests in Benin.
The legal framework of sacred forests is not changed and they cannot be incorporated	High	Unlikely	Low	The DGFRN is committed to promote all of the necessary regulatory changes to enable sacred forests to be legally part of the public forest domain and as community conservation areas

IDENTIFIED RISKS	IMPACT	LIKELIHOOD	RISK ASSESSMENT	MITIGATION MEASURES
into the system of protected areas				to be incorporated into the national system of protected areas.
Institutional territoriality, lack of training and technical assistance and conflicts between government entities and NGOs could undermine achievement of project outcomes.	High	Moderately Likely	Medium	The project validation workshop was attended by all major stakeholders, governmental entities and NGOs. At all levels, political and institutional support for the project proposal was very strong. During project implementation, extensive consultations with all stakeholders with a sound communications strategy will sustain a strong supportive community and high-level political support for the project.
Climate change will exacerbate habitat fragmentation of sacred forests across Benin	Low	Likely	Low	This project will focus on establishing and monitoring biological corridors between sacred forests within clusters and among clusters and buffer zones around sacred forests, whenever possible. These corridors and buffer ones can act as a safeguard for community conservation areas against the undesired effects of climate change by allowing biodiversity to alter distribution patterns and even migrate in response to climate change effects. NGOs are engaging local communities in adopting mitigation measures and implementing adaptation practices to counter climate change impacts and access financial resources from donors to capture carbon and reduce emissions.
Significant increases in internally and externally driven pressures on sacred forest (e.g. demand for agricultural land; overharvesting of MHP and NTFPs)	High	Likely	High	The project will address direct threats to sacred forest, mainly encroachment and over-exploitation of resources through pilot action, including community management and demarcation of sacred forests and conservation and sustainable use of buffer zones and connecting biological corridors. External pressures will also be addressed by implementing sustainable use activities in the sacred forests buffer zones.
Buffer zones and connectivity corridors cannot be established effectively and sacred forests continue losing relevance as conservation areas	High	Likely	High	Zoning exercises with the participation of all relevant stakeholders will define opportunities to improve ecological connectivity of sacred forests within the cluster and among clusters. Whenever possible restrictive zoning of corridors and buffer zones will be compensated by establishing sustainable use regimes involving NTFP, MHP and ecotourism among others.



## INCREMENTAL REASONING AND EXPECTED GLOBAL, NATIONAL AND LOCAL BENEFITS

69. Sacred forests represent a significant tool for conservation and the sustainable use of biodiversity. First, they are highly important as *refugia* within the productive landscape for numerous species, some of which provide important benefits to the surrounding productive lands, such as pollinating insects and birds, and plant species used for live fences and hedges.<sup>14</sup> Secondly, sacred forests also function as *in-situ* seed-banks and genetic reservoirs. Some of the flora and fauna species found within sites or in their vicinity include threatened and endangered species. For example, both the hippopotamus and the crocodile are considered sacred animals, and these and other animals are diligently protected by local communities within, but also outside sacred forests. Thirdly, as landscapes that have been carefully managed over tens and even hundreds of years, sacred forests' ecosystems and species communities are somewhat different from any of the areas currently included in Benin's system of PAs, and equally different from the cultivated landscapes which surround them. Although detailed and systematic surveys of biological resources found in sacred forests are still lacking, there is sufficient evidence in existing studies<sup>15</sup> that sacred forests have higher concentrations of useful, rare and threatened plants and animal species per unit area than what would be usually found outside sacred forests and their influence area. Among the identified biodiversity in sacred forests are also numerous medicinal plants<sup>16</sup>, large trees considered sacred and several fruit trees, which attract avifauna and other wildlife. Game, much of which enjoys protection due to their attributed sacred character, is often not hunted within sacred forests and in their vicinities due to traditional beliefs. Finally, sacred forests generate other ecological benefits in the form of ecosystem services which go beyond the area immediately covered by the sites. These include the protection of water sources, barriers against soil erosion, safeguarding of soil fertility, carbon sequestration, ecotourism potential and important spiritual and religious values.

70. The project capitalizes on the above mentioned potentials and at the same time addresses the urgent need to provide legal status and to secure the tenure of a number of sacred forests in Benin thereby reducing pressure from encroachment and unsustainable resource extraction which presently threaten important biodiversity resources. The project will also promote new approaches to conservation management by supporting community-based partnerships and co-management arrangements while strengthening the historic forest stewardship role of traditional authorities including religious leaders and practitioners of traditional medicine. As a result of this project at least 7600 ha of sacred forests containing precious biodiversity resources will become public domain, incorporated into Benin's system of PA and managed through a variety of community conservation management arrangements. Most importantly, the project will support participatory land use planning exercises designed to establish buffer zones and conservation corridors to connect the sacred forests with other natural areas in the nearby landscape, improving sustainability of the smaller protected areas and extending the conservation impact beyond the protected sacred forests. Finally, the project will promote sustainable use packages

<sup>14</sup> A study from the Neotropics had shown that small patches of forest in agricultural landscapes provide critical habitat for bird species (Sekercioglu et al., Conservation Biology, April 2007). This possibly applies to other mobile and less mobile forest species.

<sup>15</sup> For example MEIU/PNUD (2002), which is the 'Traditional Knowledge Report' published in 2002 in connection with the NBSAP Add-On project. See Box 2, source #4 for the full name of the report.

<sup>16</sup> In a 1989 study from Agence de Coopération Culturelle et Technique (ACCT), for a total 507 medicinal plant species surveyed and studied in Benin, at least 1980 recipes were recorded for 3,457 therapeutic indications. Box 2 shows a mere sample of these.

involving medicinal plants, fuel wood lots, small animal husbandry and ecotourism among other productive activities -in mixes that depend upon the resource base and the community's aptitude, in order to provide a source of income and employment opportunities to the surrounding communities.

71. **In the baseline situation** (business-as-usual), the remaining forest resources of Benin will continue to be subjected to the erosion process of the past decades (30% of vegetative cover lost between 1978 and 1998) and as a result, the exploitative pressures on very valuable biogeographic islands scattered across the countryside represented by sacred forests will increase. Moreover, as the historical conservation patterns which have protected sacred forests – based on religious beliefs and cultural traditions, gradually weaken, rare and threatened plant and animal species will be brought on the brink of extinction and most importantly, repositories of trees and plants commonly used in traditional medicine used by 80% of Benin's population will be lost. Unregulated fuel wood collection and charcoal production, uncontrolled brush fires, replacement of forest cover with commercial crops such as oil palms, cashew nut trees and cotton will destroy many of the remaining forest patches and sacred forest in southern Benin and impact seriously the size and quality of "gazetted forests" in the centre and north of the country. Undoubtedly the loss of forest and biodiversity resources will be felt most severely by small farmers and village communities dependent on "regulated" collection of NTFP, fuel wood and medicinal plants from these forest patches. Experience has shown that creating analog forest or botanic gardens that emulate sacred forests for the production of medicinal plants is much more complicated and expensive than previously thought, thus not an easy fix to the problem of deforestation and destruction of these forest resources. But most importantly, if deforestation and encroachment continuous unabated, the communities surrounding many sacred forest will lose visible symbols of their traditions and religious beliefs, the seed bank for many useful products and medicinal plants, the source materials for arts and crafts, the potential to develop ecotourism and ethno-tourism activities, and essential environmental services especially crucial during global climate change regimes.

72. **In the alternative scenario (with GEF intervention)** systemic and institutional barriers will be removed, enabling public entities to take charge of the sacred forests, strengthening the historic role traditional authorities in the stewardship of sacred forests by maintaining religious and traditional practices and empowering surrounding communities to conserve and sustainably use forest and biodiversity resources inside sacred forests and in the surrounding buffer zones and connectivity corridors. This project will provide land tenure security to sacred forests presently in "common property" regimes without strong authorities to administer them and therefore more likely subject to invasion, land use changes and unsustainable resource exploitation practices.

73. The project will support participatory land use planning exercises that will establish user zones, buffer zones and connecting biological corridors to enhance the sacred forest capacity to producing essential products and ecosystem services to the benefit of the surrounding communities. Prior to project implementation this project will establish key partnership agreements with other relevant projects coordinated by the DGFRN and involving sustainable natural resources management, forest conservation and fuel wood production. Lessons learned from these projects in terms of management structures, stakeholder engagement and productive



activities components will greatly enhance the chances of successful implementation of the sacred forest project.

74. In fact, on the basis of lessons learned GEF support will be used to test a number of “alternative use packages” built on and around sacred forest resources to generate sustained social and economic benefits to the surrounding villages, small entrepreneurs and practitioners of traditional medicine based on plants and trees. Institutional strengthening at the community, local government and forest authority levels will be an important output of this project whose effects will be felt beyond the protected sacred forest and have a constructive impact onto the farming landscape, commercial plantation and extensive grazing lands beyond the conservation area. And last but not least, traditional authorities who have played important roles in good forest stewardship and maintaining inter-ethnic tolerance in the will see their positions strengthened vis-à-vis the community and the State by taking on a supporting role in the management and co-management of sacred forests as community conservation areas.

75. Summary of costs: The total cost of this project including GEF funding and co-funding is US\$6,586,608. Of this total, US\$5,636,608 or 86% comes from co-financing sources and the balance of 14% or US\$950,000 from GEF Funds. It must be mentioned that as part of the co-funding arrangements and as a demonstration of strong commitment to the project. As many as 25 participating local governments have pledged an amount of > US\$1.1 million in co-financing.

## **COST-EFFECTIVENESS**

76. During the PPG exercise, several considerations pertaining to the cost-effectiveness of the project strategy were analyzed.

77. First of all, the project will ensure a cost effective approach to sacred forest management by working with communities, traditional authorities, practitioners of traditional medicine, local NGOs, and other key stakeholders which have a vested interest in the good stewardship of the proposed community conservation areas. Experiences across the UNDP/GEF portfolio show that partnerships with communities involved in the management of protected areas are generally a cost-effective approach to conservation. This is because surrounding communities depend to a certain extent, on the resources contained in sacred forest for their livelihood and it is in their interest to adopt measures to improve the ecosystems’ function and services. Moreover, the social status of traditional leaders, especially village chiefs and religious authorities is closely related to the maintenance of sacred forests and their continuous provision of goods and services to the surrounding communities. Their manifested willingness to participate in the project will facilitate decision making processes, aid consensus building, promote community participation and assist in the enforcement of management and conservation measures, actions that are commonly time-consuming and resource-intensive, yet essential for project success. Conducting activities to engage communities in environmental management actions and different interest groups to protect the ecosystem without the participation of key stakeholders (e.g. through a command-enforcement approach) can otherwise be rather costly and counterproductive.

78. Through the adopted barrier-removal approach in this project, strategic partnership with key stakeholders (e.g. traditional authorities, medicinal plant collectors) and coordination with on-going projects (e.g. PAGEFCOM, PGFTR, ProCGRN, PAMF) which share objectives, methods and locations with this project, will create synergies and optimize human as well as economic resources resulting in significant savings in manpower and project costs. Savings will be particularly evident in component two and three of this project where expertise, modeling, training kits and even staff can be used to implement sustainable use strategies in buffer zones, connectivity corridors and sacred forests. During the PPG exercise the DGFRN has specifically committed to lead the partnering and coordination activities with the above mentioned projects, a commitment that will clearly produce significant savings in operational cost for the sacred forest project which will also be implemented by the DGFRN.

79. Alternative approaches to pursue the conservation of the forest and biodiversity resources contained in sacred forests were analyzed during the PPG and found to be limited in scope, to carry a high economic cost and have a low probability of success. For example, the following possibilities exist: (i) direct monetary incentives or subsidies given to traditional authorities to maintain sacred forests, (ii) investments in patrolling and policing protected forests and adoption of a strict command and control approach, (iii) incentives for municipal authorities to take charge of sacred forests within their jurisdiction, and (iv) turning over management of sacred forests to special interest groups (medicinal plant collectors, hunters, fuel wood and charcoal producers) and community organizations. All of these options suffer from one or more of these basic weaknesses: (a) lack of technical, organizational and administrative capacity, (b) lack of credibility and thus authority vis-à-vis the community, and (c) lack of an integral or holistic vision which accounts for community participation, religious and cultural traditions, established political and economic interests and the ecological need to maintain the size, reduce fragmentation and improve biological connectivity of sacred forests, all at once. The design of this project overcomes these weaknesses, invests in proven methods to obtain results in terms of conservation and sustainable use and capitalizes on lessons learned and the acquired experience of other projects.

#### **PROJECT CONSISTENCY WITH NATIONAL PRIORITIES/PLANS:**

80. The proposed project is aligned with: (i) the Government Poverty Reduction Strategy Paper (PRSP) and Growth Strategy for Poverty Reduction 2007-2009 which highlight biodiversity conservation as a national priority; (ii) the Country Assistance Strategy (CAS 2009-2012) pillar 5 "Promoting balanced and sustainable development", through "greater territorial equity, as a means of protecting the environment, and sustainable management of natural resources", including biodiversity conservation; and (iii) GEF Biodiversity Strategic Objective 1 (SO1): "Catalyzing Sustainability of Protected Areas" and Strategic Program 3 (SP3): "Strengthening terrestrial Protected Area networks.

81. Benin has prepared and approved several environmental management documents, including the Environmental Action Plan (PAE) and the national Agenda 21, both of which identify biodiversity conservation and sustainable use as a national priority. In addition, the National Biodiversity Strategy and Action Plan (2002) and a national monograph on biodiversity