



## Global Environment Facility

1818 H Street, NW  
Washington, DC 20433 USA  
Tel: 202.473.0508  
Fax: 202.522.3240/3245  
Internet: [www.gefweb.org](http://www.gefweb.org)

February 4, 2005

Dear Council Member,

UNDP, as the Implementing Agency for the project, ***Guinea: Conservation of the Biodiversity of the Nimba Mountains through Integrated and Participatory Management***, has submitted the attached proposed project document for CEO endorsement prior to final approval of the project document in accordance with UNDP procedures.

The Secretariat has reviewed the project document. It is consistent with the proposal approved by the Council in May 2003, and the proposed project remains consistent with the Instrument and GEF policies and procedures. The attached explanation prepared by UNDP satisfactorily details how Council's comments and those of the STAP have been addressed. I am, therefore, endorsing the project document.

We have today posted the proposed project document on the GEF website at [www.gefweb.org](http://www.gefweb.org). If you do not have access to the Web, you may request the local field office of the World Bank or UNDP to download the document for you. Alternatively, you may request a copy of the document from the Secretariat. If you make such a request, please confirm for us your current mailing address.

Sincerely,

*J* Leonard Good  
Chief Executive Officer and Chairman

cc: Alternate, Implementing Agencies, STAP



7 December 2004

*Len*  
Dear Mr. Good,

**Subject: BD /OP-4, SP BD-1: Guinea: Conservation of the biodiversity of the Nimba Mountains through integrated and participatory management” – PIMS no. 1584**

I am pleased to attach herewith the above-mentioned project document, which includes our response to the GEF Council's comments on pages 79-82. The brief was approved at the GEF Council Meeting in May 2003. Also attached in Annex 10 are the co-financing letter(s) from:

Ministry of Administration of Territory, Decentralization and Security  
Ministry of Mines, Geology and Environment  
UNDP Guineau  
Fauna and Flora International  
UNDP Guinea / UNESCO

As per paragraph 29 and 30 of the GEF Project Cycle, we are submitting this project document for circulation to the members of the GEF Council and, subsequently, for your final endorsement.

Thank you in advance for expediting the review and endorsement of this project.

Yours sincerely,

*Warm regards.*

A handwritten signature in black ink, appearing to read 'Frank Pinto', is written over the typed name.

Frank Pinto  
Executive Coordinator

Mr. Leonard Good  
Chief Executive Officer and Chairman  
Global Environment Facility  
Room G6005  
1776 G Street  
Washington D.C. 20433

Cc: Mr. Abdoulaye Ndiaye, GEF Regional Coordinator

## GLOBAL ENVIRONMENT FACILITY

### 1. Identification

<b>Project number:</b>	<b>PIMS 1584</b>
<b>Project title:</b>	Conservation of the biodiversity of the Nimba Mountains through integrated and participatory management
<b>Duration:</b>	Nine years
<b>Implementing agency:</b>	UNDP
<b>National executing agency: and Environment</b>	Ministry of Mines, Geology  Centre for the Management of the Environment of the Nimba Mountains (CEGEN)
<b>Requesting Country:</b>	Guinea
<b>Eligibility:</b>	Convention on Biological Diversity ratified May 7 <sup>th</sup> , 1993; National Biodiversity Strategy and Action Plan prepared April 2001; National Environmental Action Plan prepared in 1994 in which the conservation of the Nimba Mountains is a priority
<b>GEF Focal Area:</b>	Biodiversity, with links to Land Degradation
<b>GEF Operational Programme:</b>	OP4 - Mountain Ecosystems, with links to OP3 Forest Ecosystems and Land Degradation

### 2. Summary

This programme will contribute to the protection of the biological diversity of the Nimba Mountains Biosphere Reserve, including the World Heritage Site (officially on the list of Sites in Danger since 1992). The proposed programme will rely on integrated ecosystem management through participatory approaches according to the philosophy of a biosphere reserve in which conservation of globally important biodiversity, and landscape-level sustainable use of natural resources and sustainable development are harmonised. The programme will enhance mainstreaming of biodiversity conservation into local and national level sustainable development planning. The programme will also contribute to the development of a national system of protected areas. The programme consists of (I) support to the protection of three core reserve areas in the Nimba Mountains which cover a range of ecosystem types from high-altitude savannahs to montane, mid-altitude and lowland rainforest formations plus their associated aquatic environments, (II) improving agricultural intensification and revenues in the buffer zone

and transition area of the Reserve (lateritic savannah, lowland rainforest, secondary bush, agricultural land), (III) promoting culturally appropriate animal husbandry and sustainable management and use of wild fauna in the buffer zone and transition area, (IV) improving local health and hygiene conditions, by promoting complementarity between ‘modern’ and traditional medicines, and sustainable use and management of traditional medicinal plants in the buffer zone and transition area, and (V) strengthening the management authority for the Biosphere Reserve - CEGEN - as well as inter-institutional co-ordination & planning mechanisms for CEGEN and national partners including sectoral line agencies, rural development groupings, development organisations and programmes, and the proposed iron ore mining operation. The programme strategy is to start with building the basic capacity of CEGEN and selected partners to enable them to implement a complex integrated programme for the systematic management of the Reserve’s core areas and in harmony with the portions of the Nimba Mountains in Côte d’Ivoire and Liberia (as and when their security situation improves). Specific detailed management plans will be prepared to overcome the barriers to improved park management, improved agricultural practices and revenues, and improved animal husbandry and wildlife management. Towards the mid-term of the programme, it will focus on consolidation and sustainability, both in terms of financial mechanisms as well as institutions. Towards the end of the programme, it will develop exit strategies to rural development support, establishing with the mining company an independent structure and sustainable financing mechanism to support integrated conservation and sustainable use of the Nimba Mountains, and completing any remaining needed institutional and legal reforms.

**3. Cost and financing (US\$)**

<b>GEF :</b>	Project	: 3,660,000
	PDF B	: 330,000
	<b>Subtotal</b>	<b>: 3,990,000</b>
<b>Direct co-financing :</b>		
<b>Government of Guinea</b>	Project in-kind	: 500,000
	Project cash	: 330,500
	PDF B	: 50,000
	<b>Subtotal</b>	<b>: 880,500</b>
<b>UNDP :</b>	Project	: 1,646,400
	PDF-B	: 37,000
	<b>Subtotal</b>	<b>: 1,683,400</b>
<b>UNESCO/UNF/FFI :</b>	Project	: 700,000
	PDF-B	: 30,000
	<b>Subtotal</b>	<b>: 730,000</b>
<b>Mining Consortium:</b>	<b>Project</b>	<b>: 4,500,000</b>
<b>Local Communities :</b>	Project	: 100,000
	<b>PDF B</b>	<b>: 5,000</b>

**Subtotal : 105,000**

**Total co-financing** (not incl. PDF B) : \$ 7,776,900  
(including PDF B): \$ 7,898,900

**Total for project** (not incl. PDF B) : \$ 11,436,900  
(including PDF B): \$11,888,900

**4. Associated financing (equivalent US\$):**

<i>Project title (and acronym in French)</i>	<i>Source of financing</i>	<i>Budget</i>
Animal Husbandry Support Programme (PAE)	AFD	5,820,000
Support to Livestock sector	EDF	7,432,000
Guinean Society for Support to Integrated Development of Small Animal Husbandry	Private	To be decided
Project for the Development of Small-scale Forest Inhabitants in Forested Guinea (PRODAD/GF)	IFAD	12,500,000
Project for the Development of Irrigated Rice in Forested Guinea (AFD)	AFD	To be decided
Rural Credit Programme	AFD	9,000,000
Rural and Forest Resources Management Project (PGRR)	GTZ-KfW	9,750,000
<i>TOTAL</i>		<i>44,502,000</i>

5. **Operational focal point** : Mrs. Kadiatou N'Diaye, Ministry of Mines, Geology and Environment . Date : Letter of endorsement attached

6. **Contacts** : Maryam Niamir-Fuller : UNDP-GEF Regional Co-ordinator for Africa in Biodiversity and International Waters, and Land Degradation Focal Point; e-mail: maryam.niamir-fuller@undp.org

## 7. PROGRAMME CONTEXT

### 7.1 Environmental context and global significance

1. The Nimba Mountains Biosphere Reserve (NMBR - 145,200 ha) corresponds to the Guinean portion of the Upper Cavally River Basin. Following the classic biosphere reserve model, whose objective is to integrate conservation of globally significant biological resources with human activity in an integrated landscape management approach, the NMBR is zoned into three land-use categories, namely a transition area (88,280 ha) where land uses are monitored, a buffer zone where land-uses are strictly controlled (35,140 ha) and of a cluster of three strictly protected core areas: the Bossou ecosystem (320 ha), the Déré ecosystem (8,920 ha) and a section of the Nimba mountain range that is a World Heritage Site (12,540 ha). This last area is contiguous with Côte d'Ivoire and Liberia (see maps, Annex 15). Comprised of a mosaic of forest and savannah ecosystems that cover most of the mountain range, and from which flow many permanent rivers, the massif is unique on earth. Altogether, six plant formations are present: high-altitude savannah, low-altitude savannah, semi-deciduous forest, low altitude per-humid rainforest, montane forest and swamp forest (see Annex 8 for detailed description of the programme site).
2. These ecosystems are home to about 85% of the species that comprise the biological diversity of Guinea, which boasts 2,835 animal species including 107 mammals, 72 bird species, 58 reptile species, 45 amphibians species, 38 fish species, 38 mollusc species, 2408 insect species, 31 myriapod species, 17 scorpions species, 18 acarid species, 17 species of daddy long-legs and 46 species of annelids (Bangoura, 2001). Among these, are high-altitude species living in areas characterised by average temperatures at least 6°C below that of surrounding lowlands, and a rigorous dry season followed by a rainy season with high humidity. The Déré Forest contains climax vegetation types of great botanical diversity that have been relatively well preserved for a long time (Von Droste *et al.*, 1993). One also finds many rare plant and animal species that are endemic or have almost vanished from the Upper Guinean Forest Ecosystem due to forest clearance and hunting, and which have been conserved in the Reserve because of its mountainous nature and, in places, lateritic soils<sup>1</sup>. This is the case for the Nimba otter-shrew (*Micropotamogale lamottei*), the chimpanzee (*Pan troglodytes verus*) and the viviparous toad (*Nectophrynoïdes occidentalis*), which are all on the IUCN Red List. This last species, which lives tucked away in clay openings in the rock during the dry season, is a rare case of adaptation to the convex summit of the Nimba Massif, which lacks any standing water or waterways. These chimpanzees use stone tools and, according to oral tradition, live in harmony with the indigenous people of Bossou (the Manons), who consider them as sacred. Despite forest clearance and human population growth, the population of chimpanzees has increased to 27 individuals, as of November 2001.
3. The Nimba Mountains Biosphere Reserve is also unique for its beauty and unusual landscapes. The altitude, the complexity of the climate, the morphology of the mountain

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<sup>1</sup> The GEF/UNDP project "Conservation Priority-Setting for the Upper Guinea Forest Ecosystem, West Africa" identified the Nimba Mountain complex as one of the highest priorities for conservation in the region.

peaks which rise more than 1,200 m from the lowlands, the harmonious plant mosaic created by the patchwork of grasslands and forests “which appear to snake up to the summits”, the waterways which sink into deep gorges or cascade over the many waterfalls, the sparseness of the undergrowth of the dense forests maintained by natural fires (lightning, discharges of natural static electricity, etc.) that set the mountain ablaze every year, as well as the vast expanses of high-altitude savannah interspersed with jagged rocks – all these combine to form a totally unique natural environment for West Africa (Lamotte, 1993; Pascual, 2001).

4. In addition, the Nimba Mountains Biosphere Reserve is blessed with a highly contrasting set of climatic influences due to a confluence of factors including geographic location, relief and aspect (orientation), which play the dominant roles. The mountain range represents the highest summit at the end of the Guinean Ridge and consequently is located at the crossroads of three important West African climates: the sub-equatorial climate, the south-sudanese climate and the sub-tropical Guinean climate with strong oceanic influence.
5. The patrimonial value of the Nimba Mountains Biosphere Reserve is strengthened by the general widespread degradation of West African forests and particularly those of the region of *Guinée Forestière* or ‘Forested Guinea’ (Von Droste *et al.*, 1993).
6. Finally, the biological diversity of the Nimba Mountains in the plains, hillsides and forests, provides local populations with food, energy, water, medicine, shelter, agricultural land, oxygen, etc. It is considered the resource that can stimulate economic growth and guarantee the welfare of local people.
7. The preceding factors explain the successive classification of the Nimba range as a Strict Nature Reserve in 1944, a Biosphere Reserve in 1980 and a World Heritage Site in 1981. Annex 8 gives full details of the environmental context of the Nimba Mountains Biosphere Reserve.

## **7.2. Economic context and anthropogenic pressures in the Upper Cavally Basin**

8. In 1984, at the end of the First Republic, Guinea opted for a development model based upon liberal economic policy. This included the formation of farmer co-operatives/groupings, reforms specifying land rights, readjustment of prices, policies aimed at reviving agricultural research, an increase in agricultural production, collaborative management of biodiversity resources, improvement of sanitary conditions and poverty reduction (Letter of Agricultural Development Policy, 1997; Strategy for Poverty Reduction, 2000; Guinea, Vision 2010). To support such policies, the Guinean government has needed significant capital, some of which has been generated from domestic industries such as mining, and some of which has been borrowed internationally. In 1998, the Guinea’s debt represented 102% of GNP and its debt-servicing ratio was 19.5% of exports of goods and services (UNDP, 2000). Thus a large portion of the country’s budgetary resources and foreign exchange goes directly to servicing the debt. In order to maintain, diversify and increase its sources of hard currency, the Guinean government envisages extraction of the rich iron deposits of the Nimba and Simandou Mountains.

9. Iron mining in the Nimba Mountains could be socially beneficial at the national level, as well as at the local level by providing direct and indirect employment, bringing improvements in infrastructure and social services, and having a positive effect on local and regional governance. However it represents an enormous ecological danger due to its direct effects (physical disturbances at the mine site, air, water and noise pollution, disruptions caused by infrastructure like housing and ore transportation, etc.) and indirect effects (influx of population, increased pressures from agriculture, hunting, water use, etc.). For this reason, any future mining's impacts on the biological diversity of the Reserve will be evaluated in the framework of a detailed Environmental Impact Assessment (EIA). Likewise its social impacts have been considered but need detailed analysis. However these environmental and social effects are unlikely to be felt fully for many years according to current mining plans, since extractive activities are planned to begin in the year 2010 (Camara, 2001a; Pascual, 2001). Within the current programme's time frame, the major elements to put in place regarding mining include establishing sound baseline information on biodiversity, water & air quality, and other biophysical parameters, as well as putting in place scientifically sound, binding and transparent guidelines and monitoring mechanisms for possible future mining.
10. Intense poverty persists in the Upper Cavally Basin whose inhabitants live dispersed in nearly 100 villages, up from 56 in 1992. With an estimated 1992 population of 59,000 inhabitants the average density was approximately 97 inhabitants/km<sup>2</sup> in the zone, considering only the area of habitable land versus areas unsuited to cultivation such as the lateritic savannahs and the Reserve's core areas (Pascual, 1993; Dore, 2001). High infant mortality plagues the region, due to malnutrition and insufficient caloric intake as well as to kwashiorkor, measles, tetanus, yellow fever, malaria, whooping cough, diarrhoea resulting from a variety of parasitic infections, and meningitis. Safe water supply sources are inadequate and prophylactic and hygiene services are insufficient, underscoring the need to maintain healthy vegetative cover in the upper watersheds of rivers supplying the area, especially of the World Heritage Site. Access to education is inadequate, and favours boys over girls.
11. In spite of the preceding, population growth in the Upper Cavally Basin is high, about 4.1% per year, a rate higher than the national average of 3.1%, due mainly to immigration. The population of indigenous inhabitants appears fairly stable, thus it is peoples with less local ecological knowledge who are settling around the Reserve. The agricultural potential of the Upper Cavally Basin with more than 50,000 ha of arable land, its high average rainfall (>2000 mm per year), along with commercial forestry activities and the prospect of iron mining, have sparked the influx of large numbers of immigrants from sahelo-sudanese regions, most of whom are not itinerant and have settled. Between 1990 and 1997, the wars in Liberia and Sierra Leone displaced approximately 40,000 refugees into the Upper Cavally Basin, some of whom still reside there. Recent events in Liberia and Ivory Coast have also resulted in an influx of refugees; statistics show that in a three-week period in December

2002, a total of 8,350 refugees arrived into the Upper Cavally Basin, more than half of them of Ivoirian nationality, and the remainder of Sahelian and Liberian nationalities.<sup>2</sup>

12. The indigenous peoples of the NMBR are the Manons and Konons, living mostly in the west and south of the Reserve along the Liberian border, and in the north and east of the Reserve along the Ivoirian border, respectively. The Manons, the dominant people along both sides of the Guineo-Liberian border. The local communities have agreed a non-aggressions pact among themselves: they will neither engage in hostilities across the political boundary nor harbour rebels that may try to do so. This pact, in effect since early 2001, has succeeded in keeping the local area peaceful at a time when hostilities were plaguing the border zone to the west, and in fact has contributed to reducing the traditional tension that existed between the two groups. The Manons and Konons traditionally protect sacred forests which are used for adolescent initiation rites and for adult initiation into cultural practices related to religion, history and medicine among other topics. To these peoples forests and the Nimba Mountains are also the abodes of ancestors, spirits and deities, too, embodying the ties between and thus the unity of human civilisation, the natural world and the supernatural (Doré 2001). Before large influxes of Guinean immigrants and international refugees in the 1990s, and before the expansion of the commercial forestry industry, these traditions and beliefs helped to preserve large areas of forest in the Reserve.
13. Generally speaking, three principal internal variables characterise the evolution of the Upper Cavally Basin's economy. First is an increasing informal sector of the economy, especially subsistence occupations that have a direct impact on natural resources, with 80% of the resident population depending on agricultural production. Collection of medicinal plants and fuelwood, hunting, and informal services including sale of labour, micro-retail businesses, road services, food and transportation services are also practiced. These activities are characterized by a lack of investment, clientele with low purchasing power and short-term planning horizons. Because of the lack of alternatives, these activities take a heavy toll on the natural resources of the Reserve and its environs.
14. The second and third variables are trade with Côte d'Ivoire, and social networks within Guinea based on kinship, ethnicity or religion. Commercial exchanges are significant in commodities/items such as coffee, cola nut, palm oil, rice, bananas, tools, hardware, cooking utensils, clothes, etc. However local farmers often lose a large part of their harvest by negotiating it at unfavourable prices in order to reimburse debts owed to traders. In turn farmers seek maximum short-term returns and exhaust agricultural lands rapidly, clear new forest (the case of the Déré Forest ecosystem), and over-exploit other natural resources (wildlife, fuelwood, plants, etc.) (Pascual, 2001; Loncény Camara, 2001).
15. A closer look at local production systems shows that traditional food crop cultivation is practised on hillsides and plains by clearing the forest, cultivating it until its fertility declines and then letting it lie fallow for the fertility to regenerate. Over 52% of the surface area of the Upper Cavally Basin is cultivated. The predominant land use is upland, rainfed rice. Irrigated rice production is only recently started in lowlands. Savanna patches are mostly

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<sup>2</sup> Information from Red Cross Stations on the border; obtained during a visit by the PDF B team. December 2002.

used for livestock production, hunting, fuelwood, and non-timber and wildlife, harvesting. With 80% of the economically active and rapidly increasing population practicing agriculture, land shortages have led to dramatically reduced fallow times. Consequently rice yields, for example, have dropped 8-fold in the last decades, although the same amount of work is required per hectare. This leads to pressures and attempts to convert core areas of the Reserve to cultivation. (

16. Traditionally hunting provided most local animal protein. It is practised year-round with snares, shotguns and flushing animals from hiding places. The cane rat (*Thryonomus swinderianus*) is the most prized prey. Game is destined for both household consumption and for sale. In addition to hunting, collecting snails, caterpillars, termites and frogs is common. Presently, in spite of the scarcity of game, only a few domestic animals (sheep, goats, poultry) are raised in intensive, home garden systems for ceremonial purposes. With a low Islamic population, eating pork is not locally taboo and selling it is a source of income for many households. Thus pig farming could be an important factor in reducing dependence on wildlife. The same is true for cane rat breeding, which is being tried in the region. .
17. Wood supplies about 90% of household energy requirements in the country (cooking food, heating and light). It represents a source of income for rural inhabitants and refugees, who gather it from plantations, fallow lands, land being cleared and forest undergrowth. Other than fuelwood cutting, forests are used for construction wood, small-scale village-level and industrial logging and collection of secondary products (raffia, dyes, natural toothbrushes, medicinal plants...). Industrial logging began in 1969 and has increased in recent years. Today, natural dense forests outside the Biosphere Reserve's core areas have nearly disappeared, with the exceptions of a few isolated sacred groves and gallery forests along waterways. Firewood collection is not thought to impact natural forests much in the Reserve; commercial forestry, land-clearance for agriculture and wildfires are the major threats.
18. Eco-tourism, at the World Heritage Site and the Bossou Hills in particular, could eventually play a significant role in raising local incomes and providing a long-term, non-consumptive industry for the Reserve. However given the region's isolation, the infrastructure and facilities for such tourism need to be developed, as would appropriate benefit-sharing formulae.

### **Policy and legal contexts; and Relevance to National projects and programs**

19. The Republic of Guinea is party to conventions and/or international agreements concerning biological diversity, in particular the Convention on Biological Diversity (ratified May 7<sup>th</sup>, 1993), the World Heritage Convention (1979), the Washington Convention on the International Trade in Endangered Species (CITIES), the Ramsar Convention, the Convention to Combat Desertification and the Framework Convention on Climate Change.
20. The National Environmental Action Plan (NEAP) was adopted by the Government in 1994. It includes a long-range vision, an implementation strategy and an action plan. The basic principle underlying the NEAP is the integration of the environmental dimension in the

country's economic and social development policies. Two major objectives are being pursued, namely sound and sustainable resource management and the definition or strengthening of sectoral policies.

21. The Guinean National Biodiversity Conservation Strategy offers the following vision of biological diversity in the year 2015: "A population, including all its socio-economic components, sufficiently informed of the values of biological diversity and the risks involved with it, and responsible and committed to the conservation and sustainable utilisation of its resources in the national and sub-regional interest, and for the satisfaction of present and future generations." The specific objectives of this programme (see logical framework, Annex 2) aim to realise this vision in the NMBR.
22. The programme follows also the priorities of the NEAP (1994), the 2010 Vision for Guinea (2000), the Poverty Reduction Strategy (2000) and the National Development Plan (2001), all of which cite combating poverty and promoting good governance for sustainable human development as overarching goals. All of these are major concerns of the current programme and of the financial partners of Guinea, such as the World Bank, USAID, the French Development Agency (ADF) and the Canadian Agency for International Development (CIDA). The programme also follows the logic of the Letter of Agricultural Development Policy (LADP, 1997) whose principal objectives are an "increase in animal and crop production (specifically rice [which is the] basis of national food security), the rational utilisation of natural resources (land, forests and water) and protection of biodiversity".
23. From 1958 to 1984, the State was the sole owner of land and of biodiversity resources. Since 1984, land ownership policy has aimed to return land to those who cultivate it, consequently reintroducing the notion of private property into the agricultural economy (Condé, 2001). But in the Upper Cavally Basin access to land is generally governed by customary rights. This system is incompatible with the provisions of the private land and property ownership code instituted in 1992, and therefore individual acquisition of land is a source of conflict and holds back agricultural development. This conflict is intensified by arable land becoming scarce.
24. Thus the recent reforms in policy and law related to biological diversity result from both international and internal factors. Concepts such as 'World Heritage Site', 'participatory management' and 'sustainability of natural resources' remain poorly defined legally which, among other things, makes application of these policies and laws difficult. The precedent for community-based co-management exists in Guinea, where it has been used in the Haut Niger National Park. The legal bases for community participation in Guinean law are found in the Forestry Act, the Wildlife and Hunting Act and the Land Tenure and State Property Act (*Code foncier et domanial*). However these acts are not adequately implemented because the corresponding specific laws and regulations for their execution have never been published (see Annex 9 for lessons learnt on this issue).
25. Unfortunately, conservation of protected areas is not necessarily a top priority in the eyes of government in light of the enormous short term task of satisfying the basic needs of the

population. This is why, in the absence of any motor for economic growth in the Upper Cavally Basin and of international financial assistance, it is difficult to manage the threats to the Nimba Mountains Biosphere Reserve, which are so closely tied to the ways of life of local populations. Financial support from the GEF, UNDP, UNESCO and other donors thus is critical to help build capacity and sustainable financial mechanisms for long-term conservation of the Nimba Mountains' biodiversity.

#### 7.4. Institutional context

26. There exist several institutions established more or less recently that are responsible for the management of natural resources in the Upper Cavally Basin. The comparative advantages of these potential stakeholders in the participatory management of these resources and the eventual benefits they can bring have been assessed for the proposed programme.
27. First and foremost, the Centre for the Management of the Environment of the Nimba Mountains (known by its French acronym 'CEGEN') is the agency with statutory responsibility for managing the NMBR and for co-ordinating the different activities led by specialised sectoral agencies. Although it was formally established in 1995, it did not achieve a functioning mode until 2000. Its official responsibilities and limited present capacity were assessed in detail under the PDF B and are summarised in Annex 13. With regards to communications, the Upper Cavally Basin has only a few computers and these lack internet access. The telecommunications network is limited to Lola, thirty kilometres from the Nimba Mountains. The number of telephone lines is very low. Although they work with computers, CEGEN staff in Conakry and at the Nimba Mountains communicate by radio. Local internet connection and acquisition of a satellite telephone would improve this situation. Radio, community meetings and drama represent effective and frequently used means of communication.
28. Managing forestry is the responsibility of the Directorate of Water & Forests, which is part of the Ministry of Agriculture. A forestry company wishing to obtain a logging concession works with the local Water & Forest agents to identify an area and prepare the technical specifications (*cahier des charges*) the concessionaire must follow in carrying out any logging. All *cahiers des charges* must be consistent with the Forestry Act which specifies general responsibilities, rules and regulations concerning commercial forestry. Guinea has a Tropical Forestry Action Plan which was under implementation in Forested Guinea or "*Guinée Forestière*" at the time of writing. However its impact in the province has not been felt significantly. While the Forestry Act is sound, enforcement of its provisions and of *cahier des charges* by the Directorate of Water & Forests has been seriously undermined by lack of logistical means, low motivation and loopholes allowing loggers to operate outside of normal concession agreements. In 2002, a presidential decree banned all commercial tree-cutting in the province, and the closed the borders with Liberia and Côte d'Ivoire.
29. Rural Development Communes (RDCs) prepare and implement local development plans, for example installing social and economic infrastructure at the community level. Decentralised national services are responsible for implementing sectoral and national government policies and programmes at the local level. Of importance for the management of the NMBR are the

National Directorates for Water and Forests (NDWF), for Scientific and Technical Research (NDSTR), for Livestock (NDL), for Agriculture (NDA), for Environment (NDE) and for Health (NDH). In addition, organisations and institutes under the administrative authority of the above Directorates, such as the Environmental Research Institute of Bossou<sup>3</sup> (ERIB), the Forestry Centre of N'Zérékoré, the Environmental Documentation Centre (N'Zérékoré) and the Cane Rat Breeding Research and Extension Institute of Guinea (CRBREIG), as well as other development partners (IFAD, UNHCR, GTZ and various other projects, etc.), also pursue development activities with the RDCs in the Reserve.

30. Tri-national meetings were held (Sept. 2001 and Feb. 2002) between CEGEN and its partners in Côte d'Ivoire and Liberia, and were promising: they have extended awareness of and opened dialogue on integrated environmental management to the three countries sharing the Nimba Mountains (Guinea, Liberia, Côte d'Ivoire). See Annex 12. Although the Nimba Programme will not be working in the other two countries at this time, however, it is hoped that the security situation in the other two countries will be resolved before the end of the 9 years of this programme, and therefore, measures will be made available for continuation of tri-national coordination towards a greater efficiency and synergy for conservation of the entire Nimba complex. This would include some funding under this programme for promoting transboundary coordination, and helping to develop additional requests at a later time for funding national projects in the other two countries. It is envisaged that each of the three national projects will include funding for transboundary work, with the possible development of a "tri-national coordinating committee". Commencing work in the Guinean side of the complex is essential to maintaining the ecological integrity of this site because : (a) it contains the largest portion of the complex, (b) institutions already exist and require strengthening, whereas they still require development in the Liberian side; (c) the three core areas with biodiversity of global significance are all in Guinea, and (d) work in the Liberian and Ivoirian side designed to enable the environment such that two other complementary projects can be prepared and submitted, will commence as soon as the security situation has improved.
31. The private sector is pursuing intensive activities in the Upper Cavally Basin, exerting strong pressure on elements of the Nimba Mountains' biodiversity. Due to the size of their potential investment, the mining partners will heavily influence the future of the region. Since 2001 a draft Agreement (known as "Nimba Convention") has been developed and is pending signature of the Minister of Environment. Part of the terms of this convention are that the Mining Consortium will undertake to contribute at least \$500,000 per year to a Foundation or Fund, and the funds would be used for both strengthening the protected area system in Nimba as well as sustainable development activities. Furthermore, the Convention calls upon the Mining Consortium to provide an advance as soon as signature of the Convention is obtained (see Annex 10-11).

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<sup>3</sup> ERIB's mandate overlaps with CEGEN's in that it is responsible for, among other things, managing the 300-hectare Bossou Hills area. However this area has traditionally and for centuries been managed by the residents of Bossou and in essence as a private community reserve due to its chimpanzee population. See Annex 8.

32. Civil society organisations, in particular the Union of Volunteers for the Integrated Development of Zantompiézo (UVIDoZ), the Guinean Society for Support to Integrated Development of Small Animal Husbandry (GSSIDSAH) and the Regional Federation of Livestock Breeders of Forested Guinea (RFLBFG), are also active in the greater Nimba Mountains ecosystem. Through awareness campaigns led by the NMPP, CEGEN and in collaboration with NDWF and other locally based partners, awareness of the significance of the Reserve's core areas and biodiversity is increasing amongst local residents, and of the dependence of the local economy on healthy ecosystems in the Reserve's core areas. Likewise authorities at the levels of the *Guinée Forestière* Province, the Lola Prefecture and the relevant sub-prefectures in the Reserve have shown considerable support for an integrated management approach, although this has yet to be tested on a wide scale.
33. Since the mid-twentieth century, the Nimba Mountains Biosphere Reserve has been the object of many scientific studies, carried out principally by the French Institute for Black Africa (FIBA), and today by the Primate Research Institute of Kyoto (Japan) and by Guinean and international researchers. Amongst these studies, seventeen projects were conducted on the chimpanzees of Bossou under the direction of Professors Y. Sugiyama and T. Matsuzawa, who contributed to the creation of ERIB.
34. In order to strengthen Guinean capacity to manage biodiversity, 32 Guinean students were trained under the NMPP in the fields of biology, sociology and geography. But the public and para-statal sectors have strict limits to the staff they can hire and many technically trained people have sought employment unsuccessfully for years, even when there is so much to be done. In terms of skills available in the region, extension agents from the Directorate of Water and Forests received training through seminars, workshops and symposia organised by projects active in the region: the Forest Resources Management Project (FRMP), the Rural Resources Management Project (RRMP), the Project for the Development of Small-scale Forest Inhabitants in Forested Guinea (PDSFI/FG), the AGIR Programme (Support Programme for Integrated Resource Management) that contributed to training guards at the Dalaba Centre, etc.
35. At the national level, the National Directorate of Environment, under the Ministry of Mines, Geology and Environment, is responsible for the management of the environment and the implementation of the activities conducted within the framework of the international conventions ratified by the Government of the Republic of Guinea, including in particular the United Nations Framework Convention on Climate Change and the Convention on Biological Diversity. The responsible Ministry is the guarantor of these legal instruments which these conventions are. For certain specific aspects, the responsible Ministry shares its responsibilities with the Ministries of Agriculture and Livestock, Fishing and Aquaculture, and the Secretariat of State for Planning and the Secretariat of State for Cooperation. A National Environment Council (CNE), an intersectoral coordination entity, had been designed to ensure the sustainability of the development path but was not operationalized due to a lack of information and awareness of the designated members and, mainly, a lack of financial resources.

## 8. THREATS AND ROOT CAUSES

36. Guinea had an annual deforestation rate of 5% between 1990 and 1995 (World Bank, 1999). Although the numbers are unavailable specifically for the Upper Cavally Basin, local stakeholders agree that it is rapid there (ZOPP, 2001). Species such as the pygmy hippopotamus, the buffalo (*Syncerus caffer nanus*), the leopard (*Panthera pardus*), the bushpig (*Potamochoerus porcus*) and many duikers (*Cephalophus niger*, *C. dorsalis*, *C. manticola maxwelli*, *C. zebra*, etc.), are threatened with extinction (Lamotte and Roy, 1998; Hamel, 1999).
37. There are many and self-reinforcing causes for the loss of the biological diversity. Agricultural expansion is the primary cause for forest ecosystem degradation, with population growth at its root cause (Conde, 2001; Camara, 2001b; ZOPP, 2001). Already there is evidence that some parts of the forests classified as core areas, such as the Bossou and Déré ecosystems, have been converted to rainfed agriculture. While the exact state of degradation of cultivated areas has not been systematically researched, much of it is in a state of moderate to advanced degradation, especially around villages adjacent to the core areas (Bossou, N'Zoom etc.) where arable land scarcity tends to be most acute. Considering the annual population growth rate of 4.1%, in theory the population of the Upper Cavally Basin should increase from 59,000 in 2001 to over 83,000 in 2011 (end-date of this programme). If steps are not taken to manage its natural resources rationally, this trend will lead to further overexploitation of agricultural land at the expense of forested areas..
38. Other factors influencing the Nimba Mountains Biosphere Reserve (NMBR) include the limited quantity of arable land, increasingly degraded soils, impoverishment of vegetative cover along the montane gradient (forests, savannahs, bush), differential impoverishment of forests in the uplands, low agricultural yields, inappropriate agricultural techniques, low incomes, abusive logging, institutional weaknesses, poverty and a strong dependence on natural resources (see the problem tree, and threats/root causes matrix Annex 1). Mining constitutes a potential threat (as well as opportunity) to the Reserve. The logical links between problems, threats and their root causes are explained below according to the interpretations given during the PDF B preparatory phase and as presented in Annexes 1 and 2.

### 8.1. Priority Threats

39. **Rapid expansion and degradation of Arable Land.** Agricultural production per farm is insufficient. This results from the relatively modest individual farm's surface area and from low yields. The surface area cultivated per farmer remains small since it is limited by labour intensive techniques, and insufficient availability of arable land. The shortage of arable land is manifested primarily through a reduction in fallow periods, which leads to soil degradation and completes the circle of low yields, which in turn becomes an incentive for expanding cultivation into forests. Development of low-lying zones for irrigated agriculture is jeopardised by the risk of increasingly violent floods as watersheds are cleared of forest cover.

40. Decline in soil fertility and topsoil loss, due to reduced fallow periods, occurs because agricultural practises are not adjusting to this reduction in fallow periods. Yields are further reduced by crop damage from straying free-ranging livestock, bush fires (degrading forests and savannah alike) and several agricultural pests and organisms like stink bugs and invasive plants. Fires are more intense in degraded forest cover, and the ecological changes resulting from deforestation (forest fragmentation, discontinuity of forest patches) favour the propagation of organisms such as the stink bug and invasive plants. Thus land degradation is advancing rapidly in the Reserve as rapid deforestation, irregular hydrological flow, frequent bush fires, diminished soil fertility and related factors reinforce one another, causing encroachment on the biodiversity-rich forests and associated aquatic environments of the core areas.
41. **Over-utilisation of fauna and game**. The local population is malnourished in part because its income and crop production are low, and in part because of the low outputs from domestic animal husbandry. The resulting protein deficiency, for which low incomes cannot compensate by buying domestic animal protein on local markets, is exacerbated by the increasing exhaustion of the main traditional sources of animal protein, namely game, fish and small animals collected in the wild. This spurs hunters to poach in the core areas, where game is more abundant but biological diversity is further threatened. The increasing scarcity of these wildlife resources results from a loss of habitat, and from excessive hunting pressure, due to both low incomes and high population growth, which thus acts both directly and indirectly on malnutrition and health.
42. **Potential Abusive Forestry**. Abusive and excessive tree-cutting is due mainly to industrial timber harvesting, which directly opens up and degrades the forest and facilitates agricultural encroachment into forested areas. Tree-cutting for local purposes, essentially for fuelwood, is thought to have a negligible impact because wood collection occurs principally in fallow land and in areas being cleared for agriculture. Collection of raffia, dyes, natural toothbrushes, medicinal plants, and other non-timber forest products is of relatively limited impact. Due to lack of infrastructure, logging operators have yet to make major advances to this area. Furthermore, the 2002 national decree banning logging has been largely accepted in the province, although some local logging continues, illicitly and with the complicity of some authorities. This logging is not a problem for the Nimba Mountains or the Bossou Hills, but has been damaging to the Déré Forest, and parts of the Buffer Zone and Transition Area. This illicit logging is a potential threat that the programme will address in relation to land use planning, raising farmer income through non-abusive means, and strengthening the capacity of local authorities and communities to control such excesses.
43. **Potential threat from mining activities**. Mining constitutes a potential threat (as well as opportunity) to the Reserve. The prospecting which took place in the 1970s introduced exotic plant species to the site (*Melinis multiflora* and *Dissotis grandiflora*) which are already colonising the northern portion of the massif (Lamotte, cited in Bangoura, 2001). Any further mining would certainly degrade the area set aside for extraction and mining

infrastructure, as well as potentially speed up alien invasive species expansion, and erode fragile slopes and watersheds.

## 8.2. Root Causes

44. **Low incomes.** Farmers' incomes are low due to insufficient agricultural production, and also because local production is sold at low prices. . Low sales prices are the consequence of inter-linked factors including farmer isolation due to mediocre road infrastructure , the weak management capacity of farmers, who must deal with marketing channels organised against their interests, as well as difficulties in accessing credit leading to farmers becoming over-indebted to loan sharks who compel them to sell their crops prematurely. Non-agricultural sources of revenue are insufficient due to the isolation of the region, the lack of any major economic motor (like iron mining) and to difficulties encountered by women's associations to develop income-generating processing activities.
45. **Rapid population growth.** The increasing population growth results primarily from immigration from other parts of Guinea and from Liberia and now Ivory Coast (refugees). The effect of population growth on land scarcity is reinforced by the high dependency of this population on the land and by damaging, land-intensive production methods, while agricultural methods remain unchanged. Farmers attribute the lack of available arable land to the gazettelement of the Reserve's core areas, without recognizing the important environmental services that such protection gives to agricultural land downslope.
46. **Poor health conditions.** The insufficient and poorly diversified diet contributes to the high infant mortality rate in villages. Other reasons for poor health are inappropriate hygiene practises, degradation of water supplies due to watershed degradation, and poor access to potable water. Local populations complain that medicines are given without considering the nature of the disease, and there is poor access to medical care (long distances to the health centres and the relatively high costs of medical care) compared to the local incomes. Furthermore, both traditional medicinal plants, and traditional medicinal lore, are both fast disappearing. Poor health conditions contributes to low labour productivity (further exacerbating low agricultural yields and income generation), more inclination to abusive sustainable use of forest products (impoverishing those near settlements and within easy access) and less regard for long term conservation strategies, as short term health concerns become paramount.
47. **Unmet educational needs.** Access to education was identified along with health as a major social problem of the NMBR. The illiteracy rate is high and results from the low rate of children going to school and weak efforts to teach literacy, in particular among girls. The reasons identified for the low school enrolment rate are the scarcity of schools and Low incomes, which also cause high drop-out rates. This results in less awareness of complex issues such as environmental services of montane forests.
48. **Land Tenure conflicts.** In a situation of scarcity of arable land, tenure conflicts are inevitable. Land competition pits farmers against one another, inciting them to cultivate even

if only minimally in fallow land for fear that it would be taken away from them. Furthermore, it contributes to rapid agricultural expansion in remaining forests since farmers would in effect be in a race for unclaimed land.

49. **Decline in traditional conservation knowledge and techniques.** There is evidence of a decline in traditional systems of forest and wildlife conservation, such as sacred groves, taboos, and rotation strategies. This is due to the increasing competition for resources and poverty of local communities.
50. **Institutional factors** Weak capacity of management organisations such as CEGEN, the inadequate legal framework, and to the lack of synergy among diverse stakeholders and local institutions are all contributing to a lack of capacity to address the threats and root causes mentioned above. For example, this is causing difficulty in achieving harmonious co-management with local residents of the Bossou Hills, and their chimpanzee community, with evidence of threats to the latter.
51. CEGEN suffers in particular from insufficient and from the fact that institutional roles remain poorly or inappropriately defined in law, unknown and not respected .CEGEN and other agencies operating in the NMBR have inadequate information on the state of the environment and biodiversity, as well as a good understanding on the links between healthy biodiversity and human welfare. CEGEN suffers chronically from limited and insecure financial resources, without which it cannot fulfil its mandate at the Reserve.

## **9. BASELINE SITUATION**

52. Several projects have addressed environmental management in the Upper Cavally Basin in the past. The NMPP was financed and executed by the Guinean government, UNDP, UNESCO and the World Bank (with a grant from the Japanese government), and lasted from 1989 to 1993. Originally planned for an initial period of 2 years, this project was later extended to complete a series of protection measures for the Nimba Mountains Reserve, as well as the the Environmental Impact Study of the mining project by the Central Office for Overseas Studies (*Bureau Central des Etudes d'Outre-mer* - BCEOM). The NMPP also supported the National Environmental Action Plan (NEAP) and was in charge of baseline data collection for the environmental impact assessment of the mining project, with World Bank support.
53. These efforts have resulted in:
  - an understanding of the human, socio-economic and environmental contexts for the conservation of the Nimba Mountains' biodiversity;
  - preparation of a management plan for the Biosphere Reserve, consisting essentially of zoning the Reserve into three core areas, a buffer zone and a transition area;
  - the preparation of recommendations aimed at limiting the impact of the mining project on the environment (see next paragraph), and proposing a set of activities at the end of 1993 to help

surrounding populations whose poverty was described in the project's reports UNESCO 1993);

- reaching a consensus on the boundaries of the World Heritage Site;
- installing some basic infrastructure (a network of sign posts for the new zoning, guard stations, a network of meteorological and hydrological monitoring stations); and
- a favourable environment for the creation of CEGEN.

54. However because of the high profile of the Nimba Mountains as a world heritage site, its unique biodiversity and the enormous value of the high-grade iron ore deposits, a debate had emerged more than a decade earlier pitting those favouring total protection of the site against those in favour of mining. This debate did little except to prove to both sides that both mining and conservation would go forward and the parties needed to find a compromise. Therefore in order to prepare recommendation to limit the impacts of a potential mine on the environment, beginning in the 1980s and under official instruction from the Minister responsible for environment, the NMPP and the MIFERGUI-Nimba project (the proposed Nimba mining project) collaborated closely to agree measures to limit the negative impacts of the mining complex and mitigatory measures. These include:

- reduction of the physical size of the industrial mining complex at the site;
- leaving the crest of the mountain chain intact rather than mining it, and conservation measures of the walls of the mining pit (successive terracing);
- giving up mining of the ore deposit of Grands Rochers, which will be maintained in the World Heritage Site;
- storing the tailings and other mine wastes all in one valley (the upper Zié river valley), equipped with a retaining dam and settling pools;
- siting of the railway terminal and the loading station 8 km from the boundary of the World Heritage Site, and siting the ore conveyor system from the mine to the loading station in such a way as to minimise disturbance to the World Heritage Site;
- requiring the signing of an environmental agreement between the Guinean State and the future mining company, in collaboration with all stakeholders, that will be annexed to the main mining contract between the two primary parties;
- committing the mining investors to contribute annually a portion of profits (see Annexes 10 and 11) for conservation measures and local development, once the mine is operational.

55. Mining in the Nimba mountains would be subject to the environmental guidelines of the mining companies themselves, within the EuroNimba consortium, in particular of BHP-Billeteon who will oversee construction of the mining complex and extractive activities (see

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<sup>4</sup> The final report of the Nimba Mountains Pilot Project RG/UNDP/UNESCO GUI/89/004, 1993, entitled "*Results and recommendations of the project*", , indicates among other things: "The analysis of their way of life has highlighted the ever-increasing difficult conditions experienced by the inhabitants of the villages bordering the Reserve", p.10; "...the difficult conditions of these populations who are not self-sufficient in food production and are permanently indebted to traders", p.15; "the [need to] start... pilot activities to modernise agriculture, livestock production and fish-breeding... targeting the local population" p.21; etc.

<sup>5</sup> The President of the Board of EuroNimba, Mr André Papon, stated in November 2002 to the Government that "Expenses related to the environment are an integral part of production costs, as much as extraction of the ore, its processing and transportation."

Annex 11). For all EuroNimba partners, their corporate practices and reputation/share risk-management concerns are far broader than the Nimba Mountains; in today's market, given their exposure and the size of the investors, it is in EuroNimba's business interests to act responsibly with respect to environment (and social issues too).<sup>6</sup> Furthermore, the exploitation of the mineral deposit would be done at a relatively low investment costs, because the iron content is one of the highest in the world (approximately 67% Fe). This in theory frees up resources for environmental and social safeguards and local benefit-sharing. In addition to the initial technical assistance, estimated at US\$30,000 in-kind for the year 2003, that BHP-Billeteon has committed to the biodiversity conservation programme of the Nimba Mountains, the Convention between EuroNimba and the Government of Guinea, currently awaiting the signature of the Minister of Environment, stipulates that the consortium would grant \$500,000 per year to a "Foundation" for promoting environmental conservation and sustainable development in the Mont Nimba area. It also states that the consortium would advance these funds upon signature of the Convention, prior to start up of mining activities, so as to assist in establishing the capacity at the local level.

56. Since the end of the NMPP, there has been no other significant environmental management programme of the resources of the Nimba Mountains Biosphere Reserve. Hydrological and meteorological monitoring are the only on-site activities that have been maintained by local government structures with moderate consistency since the NMPP ended.
57. Until the recent conflicts (2000) in Sierra Leone, Guinea and Liberia, USAID was active in the Upper Cavally Basin through the Natural Resources Management Programme (NRMP). This programme was executed by Winrock International with three areas of intervention: agricultural production and marketing, rural businesses and environmental policy. Within those themes and in close collaboration with local communities, the programme developed village-level natural resources management plans, promoted sustainable management of agricultural lands and supported the creation of micro-enterprises. The project built awareness and disseminated appropriate models that will be built upon by this GEF programme.
58. With respect to providing affordable credit, the Guinean government and its development partners has established several institutions to provide this service such as '*Crédit Rural*', '*Crédit agricole solidaire*' (Agricultural solidarity credit), '*Crédit agricole contrat villageois*' (Village-contract Agricultural Credit), and '*Crédit commercial*'. These credit institutions finance either strict agriculture (seed purchase, fertilisers/manures, labour, etc.) or income-generating activities. They are granted to groups of at least 5 up to 80 persons, with monthly, bi-annual or annual interest rates, depending upon the individual case. In general a monitoring committee is set up in the beneficiary village(s) that selects group members, determines the amounts to allocate and collects the repayment.

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<sup>6</sup> The President of the Board of EuroNimba, Mr André Papon, stated in November 2002 to the Government that "Expenses related to the environment are an integral part of production costs, as much as extraction of the ore, its processing and transportation."

59. Many programmes are underway in *Guinée Forestière*, the province where the Upper Cavally Basin is located, which will be harmonised with this programme. These include:

- the RRMP financed by the German Financial Aid Co-operation Agency (KfW). It is executed by GTZ in collaboration with the National Directorate for Water and Forests, and has two main components. The first aims at improving management of 3 classified forests (Diécké, Ziama and Mont Béro) through preparing management plans, strengthening capacity of NDWF staff and creating the Forestry Centre of Nzérékoré. Execution of this component will continue until 2003. The second component supports activities directed at the populations living around the selected classified forests, attempting to integrate sustainable use of these forests into the management plans under preparation. This component will continue until 2008. The RRMP could be extended to the Upper Cavally Basin. An agreement is under negotiation with CEGEN to develop agricultural activities in the buffer zone and transition area of the Biosphere Reserve, in particular around the Déré Forest;
- the PDSFI/FG, an agricultural development programmes financed by IFAD . Since 1999 it has assisted the village of Fanha the Reserve's transition area . These programmes are executed by UNOPS, based in Abidjan but whose headquarters for *Guinée forestière* is in Nzérékoré, sixty kilometres from the Nimba Mountains. They provide technical and financial assistance to the villages including an preliminary socio-economic evaluation, training in new agricultural techniques, small-scale agricultural civil works and financial aid (about US\$15,000 per year) to village communes or local co-operatives;
- the Project for the Development of Irrigated Rice in Forested Guinea (PDIR/FG), in particular via developing low-lying zones for irrigated agriculture, supported by the AFD;
- the Animal Husbandry Support Project (AHSP), supported by the AFD;
- National Project for Rural Infrastructure (NPRI) which includes the construction of health centres and schools.

60. Although significant, the accomplishments of the programmes described above are insufficient to guarantee effective preservation of the biodiversity resources of the Nimba Mountains as only the PDSFI/FG has provided any active support recently in the Upper Cavally Basin. Another important, potentially destabilizing factor in the programme zone is the influx of refugees. Between November and December 2002, a total of 8,350 refugees entered the Basin from Ivory Coast. Both the Red Cross and UNHCR have agreed to minimize impact on the core zones of the Biosphere Reserve. There are already various types of support to refugees, including for agriculture and silviculture, with the assistance of UNHCR, the World Food Programme (WFP), the Belgian branch of Doctors without Borders (*Médecins sans Frontières* - MSF) and the Red Cross. UNHCR has already committed to moving the refugee centers away from the Nimba Reserve, and will complete the operation by the end of 2003. However, this does not necessarily account for the impact of refugees on the buffer and transition zones, as well as the socio-political impacts such as land tenure conflicts. Many refugees apparently prefer to "hide" in the villages in the hopes of being able

to return quickly to their homes and belongings across the border once the situation improves. They fear living in refugee camps will “imprison” them!<sup>7</sup> The programme will have to address this issue in a more long term perspective, by building capacity of local government and communities to develop contingency plans for refugees.

## **10. PROGRAMME RATIONALE AND OBJECTIVES**

### **10.1 Overall Programme Objective and Approach**

61. The overall objective of the programme is to promote the conservation of the Nimba Mountains Biosphere Reserve, within the framework of enhancing livelihoods and sustainable development of its buffer zones. This is expected to contribute to strengthening a national protected area system.
62. When confronted with ever-increasing pressures on the Nimba Mountains, combined with population growth and the influx of refugees over the last decade, CEGEN alone cannot guarantee strict protection of the core areas of the NMBR. This is why the participation of all concerned stakeholders, including those in charge of mining, will be sought in order to realise the programme’s overall objective. Many measures are envisaged to provide incentives to local peoples to participate in the sustainable management of the Reserve. These include activities in the areas of sustainable harvesting of non-timber forest products, agriculture, animal husbandry, health and strengthening of human and institutional capacities within the framework of a Reserve master-plan. According to the draft mining concession agreement between the Guinean State and the EuroNimba consortium, the investors will be required to take stringent measures to reduce local impacts and to make a financial contribution to biological diversity conservation and development in the surrounding areas from the moment the mine becomes operational, which should be approximately when the GEF programme ends (see Annexes 11-12).
63. The programme will be implemented in a flexible manner, based upon the political, economic, social and environmental baseline contexts, and taking lessons from results of past and current activities in the Upper Cavally Basin, particularly the initial plan developed in 1991 under the NMPP with the support of UNDP and UNESCO. Experience from the NMPP, other development projects in Guinea (e.g. UNHRC’s, AFD’s GTZ’s), other GEF projects (as described in the evaluations of the first and second phases of the GEF) and the international partners involved (like UNDP, FFI, international consultants) argue in favour of a flexible, long-term and sequential strategic approach to adapt to changing circumstances and to take advantage of opportunities as they appear. In order to establish firmly an environment conducive to sustaining its results, the programme will be executed in three progressive sequences over nine years. The nine years coincide with the estimated amount of time that it will require the Mining Consortium to complete its exploratory activities prior to commencing actual excavation.

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<sup>7</sup> Toure, S. 2002. RAPPORT DE MISSION (Du 16 au 25 décembre 2002 aux Monts Nimba); CEGEN.

64. The programme will be operationally sequenced. UNDP will disburse funds according to its standard procedures, using cost-sharing arrangements. However from an operational point of view this sequencing is an essential element of the adaptive, flexible programme planning approach adopted, and specific indicators for each sequence are provided in Annex 2 'Logical Framework Analysis'. The first sequence will focus on the installation of basic infrastructure; acquisition of technical, accounting and monitoring skills; ensuring complementarity and synergies between the activities of rural co-operatives and communes, decentralised sectoral government services, development partners and CEGEN; initiation of processes for legalisation; feasibility studies and analyses of cost, benefits and environmental impacts of innovative sustainable use regimes; and preparation of specific plans for all conservation- and development-related interventions.
65. Thereafter, in the second sequence, the programme will focus on the launching of almost of the activities of the programme including demarcation of the core areas' boundaries, participation of local populations in the protection of the Reserve, development of management plans for the core areas of the Reserve, promoting the development of local micro-industry, developing the managerial skills of animal husbandry co-operatives or other groupings, raising awareness of those who hunt or collect wildlife of the principles of sustainable management and applicable laws, support to increase NMBR-wide coverage of health dispensaries and clinics, to integration of modern and traditional medicines, monitoring of water quality in relation to environmental changes, improvement of the existing networks of wells, pumps and water supply systems, and creation and management of a geo-referenced database on land-use, botanical and faunal inventories and the overall ecosystem. Community assistance activities will target mostly villages in the buffer zone, which pose the greatest threats to the Reserve's core areas. Towards the end of the nine year programme, in its third sequence, it will focus on expanding activities to the transition area, and on consolidating the sustainability of all activities so they may continue after the programme closes. One element of this will be the formal establishment of the proposed 'Nimba Foundation' or similar institution and a related sustainable financing mechanism, to be supported by contributions from the mining company when extractive activities begin, and possibly from other sources. It will also serve to share lessons learnt on participatory management of the Nimba Mountains' biodiversity resources at national, sub-regional and international levels.
66. Throughout programme execution, field activities will be supported by institutional and legal reforms so that the capacity of the Nimba Mountains' management structures, in particular CEGEN's, will be strengthened. CEGEN was given roles in the Reserve that overlap with other agencies' or institutions', which results in overlapping or conflicting responsibilities. The desired policy/legal reforms will consolidate the authority of CEGEN and allow it to carry out its activities with greater efficiency. It is hoped that coherent actions by donors and the mining company will help these reforms to occur early in the programme's implementation. See Annex 7 for the programme implementation schedule.
67. The total surface area of the site targeted by the programme is 145,200 ha. This site contains nearly 100 villages and three core areas (the Bossou and Déré ecosystems and the World

Heritage Site), a buffer zone and a transition area. During the first two years of the programme, activities will take place in approximately 10% of the villages, a sample chosen according to the threats posed to biological diversity, their proximity to core areas and the willingness of the village to conserve the Reserve. After this, lessons learnt will be progressively transferred to other villages after their adaptation to individual contexts.

68. While the issue of influx of refugees is beyond the control of the current programme to address directly, it will nevertheless work with specialized agencies to minimize this threat. The programme will provide technical assistance to relief agencies active in the area, including UNHCR and WFP, to ensure incorporation of environmental concerns in relief work, including siting of camps as far as possible from ecologically sensitive areas, urging that they are not so large as to provoke serious local environmental degradation, and that environmentally appropriate employment and income-generating activities are offered to refugees so that they do not increase unsustainable natural resource 'mining'. Furthermore, the technical assistant(s) will work with CEGEN and the local communities to prepare a series of guidelines and the outline of a contingency plan in case of future refugee movements in the zone.

## **10.2 GEF incremental cost**

69. The GEF incremental cost calculation is based upon the principle of removing the institutional, inter-institutional, scientific, financial, legal and socio-economic barriers to establishing integrated and participatory conservation of the core areas of the NMBR and to realising global benefits. Some co-financing from the UNF will complement the GEF increment. The remainder of the co-financing will cover the cost of sustainable development activities, mostly in cash but also in kind, especially from the Guinean Government and local communities. Annex 3 shows the incremental cost analysis.

## **11. JUSTIFICATION FOR GEF FINANCING**

70. The current programme is eligible for GEF support under Operational Programme ( OP) 4, namely Mountain Ecosystems. However because the programme spans from high-altitude areas to lowland rainforest, it also addresses OP 3, Forest Ecosystems. It will protect globally significant biodiversity found in the core areas of the Nimba Mountains Biosphere Reserve, and manage the biodiversity for sustainable use in their associated buffer zone and transition area. Taken together, this biodiversity consists of high-altitude savannahs and several rivers basins linking these savannahs to high, medium and low altitude forests and to their associated aquatic environments. According to the West African Conservation Priority-Setting Exercise (WAPSE - 1999), supported by GEF and UNDP, these habitats are considered one of the top priority ecosystems for conservation in the world due to their endemism and degree of threat. Appropriate management techniques for all the different

ecosystem niches will be used given their wide diversity, and an ecosystem approach will be used to ensure management of particular niches supports the overall ecosystem<sup>8</sup>.

71. The biosphere reserve model to be followed emphasises integrating sustainable use of biodiversity at the landscape level with conservation of globally significant ecosystems. The programme will launch integrated, sustainable and participatory use of the natural resources of the Reserve's largely agricultural and lowland buffer zone and transition area, specifically of their fields, forest, savannah, plants, wildlife, soil and water. By improving land-use, and in particular soil conservation and forest canopy regeneration and conservation in the Upper Cavally River Basin, the programme will contribute to combating land degradation in the Reserve and to providing watershed protection benefits downstream along the Cavally River in Côte d'Ivoire and Liberia. Thus it will realise benefits under the Land Degradation focal area.
72. The programme emphasized involvement of private sector stakeholders, in particular the mining company, who participated fully in programme design and will play key roles during its execution, not as passive recipients but as active planners, implementers and contributors to the initiative (see Annex 5).
73. In order to ensure capacity-building, an enabling policy environment and the sustainability of programme achievements, and to stimulate the integration of conservation objectives into local, regional and national development programmes, the programme will be implemented with a long-term perspective, building on the achievements of the previous and with emphases on training, policy, inter-sectoral planning and continuous M&E (learning lessons and incorporating them into on-going programme implementation). With a carefully structured M&E system focused on continuous self-improvement (see Annex 6), institutional capacity-building of CEGEN will continue beyond the programme.
74. The programme is based upon articles 6, 7, 8, 11, 12, 13, 14 and 18 of the Convention on Biological Diversity. It is based firmly on the Guinean National Biodiversity Conservation Strategy which promotes reinforcing protected area protection and building capacity of the institutions responsible for managing them (sub-objective 1.1 of the National Biodiversity Conservation Strategy), "the creation of a forested corridor between the Bossou and Nimba ecosystems" and "creation of an 'eco-development' village adjacent to the Nimba Mountains Biosphere Reserve" (sub-objectives 1.3 and 3.1 respectively of the National Biodiversity Conservation Strategy). In addition, the National Biodiversity Conservation Strategy and associated Action Plan mention inappropriate agricultural systems, decreased fallow periods without soil improvements, bush fires and excessive exploitation of forest resources as the

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<sup>8</sup> For example management of high-altitude forest by controlling fire could help expand such forest, but to the detriment of the high-altitude savannahs. Agricultural and wildlife utilisation interventions will be designed to help protect lowland forest and lowland lateritic savannahs above all.

<sup>9</sup> These objectives are: (a) Conservation and sustainable use of biological diversity, as well as equitable sharing of benefits arising from biodiversity use; (c) Conservation and sustainable use of waterbodies, including watersheds, river basins, and coastal zones; and (d) Prevention of the pollution of globally important terrestrial and aquatic ecosystems.

main threats facing biological diversity (Point IX of the National Biodiversity Conservation Strategy), all factors that this programme will address.

75. Although the programme was developed prior to the identification of Strategic Priorities for the Biodiversity Focal Area of the GEF, it is nevertheless in line with the Strategic Priority 1. The programme contributes to achieving sustainability in the protected areas system, encompassing institutional, social, political and financial sustainability with respect to both the protected areas systems and three individual protected areas. The majority of activities to be funded through the programme are expected to deliver benefits at the local level, in terms of ensuring institutional and socio-economic sustainability of the three core areas. In addition, the programme integrates the sustainable use and development needs of buffer and transition zone residents. At the national level, the programme also envisages additional activities that would strengthen the national protected area system. In collaboration with the National Directorate for Water & Forests, and the National MAB Committee, CEGEN will : contribute to review and possible revision of policies and regulatory frameworks at the national level; create a national coordination structure for national parks; and depending on how CEGEN performs in the next 3-5 years, to expand its mandate to cover other protected areas in the south-western part of the country.

## **12. DESIGN ALTERNATIVES CONSIDERED AND REJECTED**

76. The Guinean Government, UNDP, UNESCO and most recently the team who prepared the programme have considered several major design options and approaches for the programme, adopting and rejecting them as follows:
77. Pursuing an integrated tri-national project between Guinea, Côte d'Ivoire and Liberia, versus pursuing separate conservation initiatives for the Nimba Mountains in each country but with transboundary dialogue and planning. Ecologically, the Nimba Mountains are one ecosystem and need to be managed in a coherent manner. However a tri-national project to conserve their biodiversity was rejected because of (1) the institutional complexity of preparing and implementing such an initiative, (2) the political relations between countries which evolve and could conceivably slow down progress in the field if relations were not optimal, (3) the very different nature of threats in each country and the different ability of each country to address them, and (4) the current security situation in the neighbouring countries. With regard to reason (3), the southern-most part of Guinea is mostly humid, forest, the western-most part of Côte d'Ivoire is isolated, removed from the majority of the nation's economic development, and the northern-most part of Liberia is far from Monrovia, formerly prosperous but now an economic ghost town. Following the International Gorilla Conservation Programme model of Rwanda, Uganda and Democratic Republic of Congo, co-ordinating interventions and working with neutral UN and international NGO partners to facilitate the transboundary dialogue and planning is currently the most appropriate and effective means to ensure conservation is harmonised across borders and builds on realities and success at the field-level. See Annex 12.

78. Pursuing a participatory approach to conservation of the NMBR's biodiversity versus a classic protection-oriented approach. Since the time of the Pilot Project, the threats facing the Nimba Mountains are known to be rooted principally in local, mostly subsistence, economic practices and not merely from the proposed mining venture. Thus addressing protection of the Reserve's 3 core areas without addressing development needs in the surrounding areas was rejected as short-sighted and self-defeating in the medium and long terms. Furthermore given that some of the Reserve's biodiversity exists outside the core areas, and that this biodiversity (wildlife, forests, aquatic habitat) is important to connectivity between the three core areas and thus to their long-term biological viability, it too must be sustainably managed. To do this necessarily implies working with local communities and involving them in programme preparation and execution. Needless to say, the CBD, GEF and most sponsors insist that conservation interventions adopt such participatory approaches.
79. Collaborating with and integrating mining concerns into the programme versus opposing any mining activity in the zone. Experience from the 1980s and early 1990s, in particular the acrimony prior to the Pilot Project between proponents of conservation and of mining, demonstrated that neither mining nor conservation concerns would be allowed to dictate fully what happens in the mountains. The Guinean Government, UNESCO, UNDP, partner NGOs (local and international) and the mining partners have reached a consensus that it is in everyone's long-term interest to work together. For example, mining could provide much-needed non-agricultural employment locally and long-term funding to conservation. The mining company would be severely handicapped locally and internationally if it were disrespectful of social and environmental concerns, and would have its permit revoked by Government. Thus the proposed mining project has been treated as an opportunity that could benefit the Reserve and must be encouraged to do so.
80. Which development activities to include such as supporting health, agriculture, animal husbandry and education. While local residents identified numerous problems during programme preparation, the problem tree (Annex 1) demonstrated clear linkages between agriculture, livestock-animal husbandry and health, on the one hand, and biodiversity conservation or threats on the other. Thus support to these sectors seems critical to achieving the programme's goal. However no clear direct link was evident between formal education – a primary problem identified by local residents – and biodiversity. Thus no support to formal education was included in the programme, although the programme will have awareness raising activities. Support to formal education could be considered associated financing.

### **13. PROGRAMME INNOVATIVENESS**

81. The most remarkable innovative aspect of the programme is how it will engage a major mining company as a key stakeholder, and how it will balance mining operations with biodiversity imperatives. As laid out in Annex 10, the proposed mining project represents an enormous local opportunity, for example a long-term sustainable source of financial support to conservation and local development, a source of non-agricultural employment, and a powerful presence that can improve stability and governance in the region, with all the consequent trickle-down effects. The evaluation will extract and disseminate lessons from

this innovative and experimental programme element, which is the first of its kind in West and Central Africa.

82. The programme is based on the Biosphere Reserve philosophy that includes integrated ecosystem management, sustainable use of biodiversity as well as strict protection of core areas. Establishing sustainable use regimes of non-protected wildlife as well as of local medicinal plants in the buffer zone and transition area are important elements of the local development programme components.
83. The programme is innovative finally in the way it will share the costs and benefits of biodiversity conservation and combating land degradation between governmental authorities, local populations, the main private business interest - in this case the mining company – and donors, filling a niche in the GEF portfolio that has not been adequately explored. Therefore the programme evaluation will extract lessons on costs and benefits sharing from this programme that are relevant to other initiatives, whether GEF-supported or not. It is innovative also in how it will test a largely bottom-up, organic approach to transboundary collaboration as described in Annex 12.

#### **14. COMPONENTS AND EXPECTED RESULTS**

84. The programme's logical framework is presented in Annex 2, showing the hierarchy and links between Goal/Purpose, Objectives, Results and Activities. A more detailed description of the results and/or activities appears in the participation plan (Annex 5). For each result, the activities to be undertaken before, during and after this programme are described, as well as the institutions or other entities responsible for their implementation. Programme activities defined during the PDF-B are divided into five components as follows:

##### **Component 1: Ecological integrity assured for the three Core Areas of the Nimba Mountains Biosphere Reserve (GEF: US\$ 2,160,000; Co-financing: US\$ 2,134,000)**

85. Component 1 will directly target the preservation of the ecological integrity of the Nimba Mountains World Heritage Site, the Bossou Hills and the Déré Forest. Component 1 focuses on consolidating protection of biodiversity of global significance. It will complement all other components, and particularly components 2 and 3 that aim at alleviating the pressures exerted on the core areas from outside. The Reserve's protection requires action at two levels: first, its protection must be consolidated and second, the threats facing it must be alleviated. . Therefore the principal expected results and activities are:

##### **Result 1.1 Boundaries of the core areas recognised, legalised and demarcated**

Result 1.1 targets implementing the conclusions and recommendations of the inter-disciplinary mission of May 1993 concerning the re-drawing of the boundaries between the mining concession and the World Heritage Site. Consultations will be held at all levels to prepare, finalize and implement a gazette law and relevant implementation texts. The boundaries of the areas will then be demarcated with beacons and by sign posts in collaboration with the mining partners, and a plan to monitor the new laws will be instituted (see later activities).

**Result 1.2. Dynamics of the core areas' biodiversity known, threats precisely described and management actions identified with participation of buffer zone villages.**

With the participation of CEGEN, decentralised sectoral services, development partners (esp. GTZ, IFAD and AFD) and NGOs, a series of targeted inventories and studies are critical to obtaining the knowledge of biodiversity dynamics, threats and management measures required for the core areas. Local community traditional knowledge will be extensively used, codified and entered in the ecological monitoring system (Result 5.3). The mining company will play an active role in supporting and collaborating with these activities, especially as it will be legally responsible for preparing a detailed environmental impact assessment. Finally, dialogue with the 2 neighbouring countries sharing the Nimba Mountains with Guinea will be maintained with a view to identifying how to harmonise management and, when possible, initiate joint field activities. This Result 1.2 will include such analyses as : impacts of fire and management requirements; impacts of mining activities including those related to introduced species; and deeper understanding of conservation priorities for the site.

**Result 1.3 Decrease in incursions and illegal activities in the core areas**

In addition to setting up an effective patrol and monitoring system, these activities will consist of involving local populations, in particular hunters and farmers, in monitoring the Reserve in similar fashion to what has been done in the Haut Niger National Park in the centre-north of Guinea. Involving local hunters and farmers will consist of training and organising them into teams in villages surrounding the core areas and giving them responsibility to patrol clearly delimited zones of the same. Because of local traditions, the Bossou Hills in particular will be co-managed as a community reserve. This protection system will be completed by establishing greater synergy and co-operation with public law enforcement agents from the justice system and public order forces (police, etc.) to enforce penalties and discipline, particularly as they relate to illegal logging operations. This Result will include such activities as equipping and organising a patrol-cum-protection system by involving local populations and public law enforcement agents. It will also feed into refugee contingency plans (result 2.1) in order to minimize the impact of refugees on the core areas.

**Result 1.4 Improved compatibility of planned mining activities, and strengthened cooperation.**

Strengthening compatibility of and cooperation with mining partners will consist of preparing precise environmental guidelines, and monitoring the effectiveness of compliance with the recommendations to limit the impacts of mining on the environment. including meeting the conditions of the "Environmental Convention", and making a substantial contribution to the future sustainable financing mechanism for conservation and development in the Reserve. See annexes 11-12.

**Result 1.5 Management plan prepared and implemented for the core areas**

Result 5 will involve bringing together all the different elements begun in the activities above, plus new ones identified as a consequence of the first activities, into a comprehensive, integrated management plan covering each core area (WHS, Bossou and Déré forests). The management plan will then be implemented. This will very likely include soil conservation and forest

restoration to restore degraded zones in the core areas. They will be developed with expert national and international assistance, based upon sound science and extensive, iterative consultations with relevant local stakeholders, such as the mining project, local populations and local authorities. Where possible, these activities will involve actions co-ordinated across international boundaries via the tri-national process underway.

Although all the management plans will be developed in consultation with local communities, the Bossou Forest will in particular specifically be managed as a Community Reserve. This will include greater reliance on co-management techniques, and a stronger reliance on community-derived decisions on resource allocation, conservation and use. This activity will rely on existing traditional institutions and knowledge systems for conservation, but will also build capacity of both park managers, and leaders of customary institutions, in communication, management and financial skills. The informal committee established at the time of the PDF B will be institutionalised into a stronger mechanism for co-management of the Community Reserve.

### **Result 1.6 Impacts of refugees do not affect the core areas**

A contingency plan for refugees will be developed that avoids impact on the three core areas. This will be done in collaboration with specialized agencies and NGOs working on refugee issues. The contingency plan will include a plan for temporary integration of the refugees into the local master-plan for development in the buffer and transition zones (see Result 5.1).

### **Component 2: Sustainable land use and Agricultural revenues of local people increased on the basis of more productive practises. (GEF: 20,000; Co-financing: US\$2,020,100)**

86. The objective of component 2 is to increase farmers' revenues through practises that 'consume' less land and other natural resources. This objective is integrally linked to the core areas' ecological integrity because it will alleviate agricultural encroachment on the core areas. Therefore interventions will first and foremost target the buffer zone villages that threaten the Reserve the most or those for which changes in their agricultural practises are most needed to benefit conservation. Although very little GEF funding is envisaged specifically for this component, it is understood that the programme management unit will monitor these activities to ensure that they are compatible with the other Components of the programme. Thus the principal results expected and the activities are:

#### **Result 2.1 Sustainable land use systems**

This Result will be achieved through activities that first clarify exactly how local land-tenure systems are a driving force of encroachment on the core areas, and show ways in which land-use around the core areas can be stabilized and made more appropriate to ecosystem functions and health, thus halting encroachment. It will also include the development of capacity for resolving land tenure conflicts using customary and local government regulations, including developing contingency plans for refugees. It will also involve, with the assistance of partner agencies, the reform of local land tenure and land use systems.

### **Result 2.2 Increased agricultural yields**

Promotion of environmentally sound irrigated rice cultivation in lowland areas (improved rice varieties, water management, salinisation control, etc.), and improvement and intensification of cultivation techniques of upland sites by introducing locally appropriate inputs and soil conservation technologies designed to maintain fertility and reduce erosion. Techniques and methods will be adopted from best practices of other projects in Guinea, through farmer-exchange programmes.

### **Result 2.3 Improved incomes from agricultural produce sold for higher prices**

In order for farmer incomes to increase, the constraints limiting local farmers' marketing abilities must be better understood at the specific localities, and activities must be designed for focused responses for each situation. CEGEN will put in place systems with partner agencies to deliver the appropriate responses, such as appropriate mechanisms to furnish micro-credit, training in negotiation skills of farmers' co-ops/communes/other groupings, improved storage techniques, and improved understanding of how produce is marketed, etc. These will be based on existing farmer groupings (RDCs, specific producer groups like cola nuts producers) that will be strengthened and organised to receive and channel required assistance.

### **Result 2.4 Diversified income sources enhanced**

The Lola Prefecture has almost no medium-sized industry except for a few sawmills. However there are numerous small workshops for artisanal production of masonry, cabinetry, baked goods, paint and dyes, metal-working, sewing, embroidery and more, and micro-service industries like hair-dressing, radio repair, auto and motorcycle mechanics, etc. Local micro-industry remains the most promising sector for employment and diversifying sources of revenue, and the programme will promote this through demonstrations and technical assistance and access to micro-credit. However, similar to local agricultural production, artisanal industry is blocked by similar organisational, technical and financial barriers. Assisting with technical assistance and facilitating credit at affordable rates and in appropriate amounts is thus a necessary response. Another source of income is from the construction of mining infrastructure, which is expected to begin towards the of the programme, and will provide significant employment opportunities for unskilled labour. Most of this is expected to be generated locally. However, because of the risk of increased immigration, the programme will work with local governments (as part of Result 2.1) to establish and enforce land use regulations, with a view to controlling immigration.

### **Component 3: Local needs for animal protein and non-timber forest products more fully met using practises that do not damage wildlife and forests (GEF: 740,000; Co-financing: US\$ 496,000)**

87. Increasing the availability of animal protein is crucial to resolving the problems of both malnutrition and increasingly scarce wildlife/loss of biodiversity. Similar to component 2, this component seeks to address human well-being and biodiversity conservation simultaneously through one specific objective linking the two goals. Small animal husbandry will target domesticated animals (pigs, sheep, goats, poultry) and 'wild' animals (cane rats, snails, fish, frogs). Although natural medicinal plants are not currently under threat, sustainable use regimes will be implemented to avoid any over-exploitation linked to

Component 4's integration of modern and traditional medicines. The principal expected results and activities are therefore:

**Result 3.1. More productive animal husbandry, integrated with agriculture**

Based upon the research carried out under the PDF B and targeted local needs assessments, these activities will facilitate and improve animal husbandry using the same approaches generally as for Results/Activities 2.1 and 2.2. Attention will focus on animal species destined for local consumption and sale, such as pigs, and will draw upon best practices of other interventions in the zone, such as those developed by the Guinean Society for Support to Integrated Development of Small Animal Husbandry (which includes methods for improving feed concentrates, reducing off-site pollution from intensive production). Furthermore, the project will promote the development of farmer-herder associations as a way to ensure integration (marketing; transfer of organic matter) and reducing conflicts.

**Result 3.2. Domestication and breeding of wild animals tested and disseminated**

Through consultations or possibly contracts with agencies involved in this domain, visits to sites in Guinea where trials have been led like CRBREIG, and reviews of literature on past trials, lessons for raising 'wild' animals will be collated, and technical, economic and social feasibility will be assessed. With expert assistance and after designing a thoughtful monitoring and evaluation plan to ensure that lessons learned are acted on, breeding trials will be launched in buffer zone villages. These will aim not only to breed animals but also market them. Marketing of surplus production will be aided by the assistance provided under Results 2.2 and 3.1. Through surveys, in particular of hunters and meat sellers, the impact of these initiatives on hunting will be assessed.

**Result 3.3. Wildlife resources and natural medicinal plants co-managed with local populations in a sustainable manner**

As wildlife protection laws are relatively poorly understood locally, and can conflict with traditional practices, locally appropriate messages and materials on laws and regulations will be prepared and disseminated via the activities of this component, and linked to Results 1.3, 5.1 and 5.5. The messages will also focus on principles of sustainable management of target species including harvesting and off-take limits, protecting or even creating breeding/reproduction habitat, periodic bans to permit breeding or population recovery, etc. Local knowledge will be key to defining specific management techniques to institute and refine with local hunter/gatherers. Based on expert advice and local consultations, management regimes will be designed for target species whose collection/hunting in the wild should be managed. The ecological monitoring programme (Result 5.3) will track numerous parameters including species densities for some or all species targeted in this component, both in the core areas and outside, in order to monitor the effectiveness of the activity and refine management techniques through adaptive management.

**Component 4: Improved health conditions, in particular among the neighbouring villages subject to constraints from the Nimba Mountains Biosphere Reserve (GEF: US\$ 0; Co-financing: US\$ 1,518,800)**

88. Addressing the critically poor health and sanitary conditions was clearly identified as a top priority by the local population. Consequently it is essential to address them since they reflect real and serious human problems. Although apart from medicinal plant use the links between health and conservation are only indirect (see Annex 8), they are taken into account in this programme in order to enhance local residents co-operate and ownership. Support given under this programme will therefore target those people who are closest to the core areas, without forgetting that the right to health is a universal right. No GEF resources are planned for this Component, however, lifting barriers to sustainable use of medicinal plants is covered as part of Component 3. The principal expected results and activities are:

**Result 4.1. Improved medical and para-medical health care**

Through partnerships with relevant decentralised sectoral services, aid agencies and NGOs, these activities will consist of training medical and para-medical staff in basic health care provision, improving their services and correcting many erroneous and harmful practices that local residents report have been recommended at health centres. Sexually transmitted diseases and HIV-AIDS will also be part of the training. These activities consist also of constructing and equipping a medical supply centre and establishing simple, inexpensive cost-recovery procedures for it that are to the extent possible self-sustaining in the local context.

**Result 4.2. Increased access to health care**

Through the same partnerships as above, health centres and dispensaries will be constructed to ensure more thorough geographic coverage across the Reserve. Through training, sponsorship of those who practice traditional (herbal) medicine, studies of medicinal plants used locally and monitoring of their ecology and population status, traditional medicine will be promoted in the Reserve. Sustainable use of such medicinal plants will be encouraged through setting up guidelines for their collection, and if possible certain plants will be farmed to relieve pressure on wild populations (if relevant) and to generate income.

**Result 4.3. Increased access to potable water and improved water hygiene practises**

This Result will be achieved by monitoring water quality in light of changes to the environment; identifying sources and causes of pollution and executing the needed corrective measures; and contribute to the existing network of wells, pumps and water supply systems. These actions will be taken after appropriate environmental impact assessments of opening up new water points.

This Result will be overseen by CEGEN and implemented by the partner agencies above, with CEGEN providing the relevant water quality monitoring. Activities will consist of classic water-supply and water quality measures with emphases on information and awareness, prevention rather than correction, simple cost-effective corrective measures and locally appropriate technologies that can be maintained with few inputs and basic skills.

**Component 5: Strengthened capacity of the Reserve's management structures, mainstreaming of biodiversity conservation, and contribution to national protected area system (GEF: US\$ 740,000; Co-financing: US\$ 1,608,000)**

89. Programme preparation highlighted CEGEN's weaknesses and the lack of synergy between CEGEN and relevant institutions. Therefore capacity-building is a major emphasis of the proposed programme (See Annex 13). This result will also ensure the sustainability of the programme's accomplishments after it ends by removing key barriers to executing measures in the first four components, and ensuring mainstreaming of biodiversity conservation in local government, community and mining operations. The principal expected results and activities are:

**Result 5.1. Synergy and mainstreaming ensured between institutions and between interventions**

These activities will put in place unambiguous and detailed legal bases for CEGEN's authority in the Reserve, which remains incomplete in its details, and any policy gaps related to local community participation in protected area and wildlife management will be filled. Participatory forums for dialogue, information exchange and planning will be established and convened between CEGEN and local communities on the one hand, and on the other between CEGEN and all relevant governmental authorities, such as local branches of Ministry of Water and Forestry, development agencies and programmes, private operators and other relevant stakeholders in the Reserve. To ensure all economic activities in the Reserve are planned in a rational manner that supports the overarching Biosphere Reserve philosophy, a master-plan for the development of the Reserve will be prepared based on broad participation and evolving development opportunities. This will have the effect of mainstreaming biodiversity concerns in development planning in the Reserve and the Prefecture of Lola. For example, the issue of continued small scale illicit logging will be openly addressed, negotiated, and plans implemented to reduce their negative impact. The Refugee Contingency plan developed in Result 2.1 will be integrated into this master plan. Finally, this Result will also address the eventuality of transboundary cooperation with counterparts in neighbouring countries, as and when the security situation improves.

**Result 5.2. CEGEN's human and material resources strengthened and well managed**

A training programme was designed consisting of modest of *ex situ* training targeting key high-level staff skills, and mostly *in situ* training in a learning-by-doing fashion with the aid of national and international TAs. A resource centre with significant training and reference materials will be established in CEGEN's headquarters to permit motivated staff and programme partners to improve their skills continually and seek answers to questions that will arise. Without becoming a bureaucratic end in itself, an internal M&E system for CEGEN will be set up to track individual staff performance on a regular basis, recognise staff performing well, and monitor the effectiveness and efficiency of the overall institution. It will be a regular feed-back mechanism, consisting of individual and institutional performance reviews with a view to identifying problems and bottle-necks, and implementing solutions. See Annex 13 for details. CEGEN will furthermore relocate the bulk of its staff and material goods to the Reserve, building up its infrastructure and equipment there and maintaining only a small liaison office in Conakry with which to communicate with National Government, donors and the international community. Finally, CEGEN will engage additional staff, on government budget, who will work directly with the PMU until they are fully trained and can be relocated into their own ministry.

**Result 5.3. An operational ecological monitoring system**

Real-time, accurate and spatially referenced information on land-use, demographics, vegetative cover, changes in these parameters, wildlife populations and population dynamics, hydrology, meteorology, other climatic variables, socio-economic variables and much more, will be important to obtain in order to develop management plans, and implement the plans through adaptive management. These activities involve the design of a system to monitor key parameters (bearing in mind the needs to track indicators of success in Annex 2), impacts of mining operations, sustainable use activities, and much more. National and international experts will design a system of data collection, and storage and analysis using GIS techniques. Data from pre-existing sets will be used to constitute the initial database, such as the WAPSE database developed by Conservation International. Guinean technicians will be trained to manage the GIS system and interpret the resulting information. After the end of the programme, CEGEN will have the capacity to continue to update and use the data base, as well as share lessons learnt.

**Result 5.4. Guaranteed long-term funding for conservation**

The programme is designed to overcome key obstacles to conservation of the NMBR. These include legal, institutional and inter-institutional weaknesses; encroachment on the core areas and land degradation in the buffer zone/transition area largely from poor agricultural practices and inadequate local animal protein; ensuring the negative impacts on biodiversity of the proposed mining operation are minimal while the benefits to the Reserve overall are maximised; and lack of scientific knowledge on which to base biodiversity protection and sustainable use decisions. Once these obstacles are removed or at least greatly reduced, the recurrent costs to continuing effective management of the Reserve will fall dramatically. In spite of the reduced future costs, the Government of Guinea is requiring the mining company (see Annexes 10), to provide an annual contribution to conservation and social development in the Reserve for the period the mine is producing ore. A sustainable financing mechanism will be created to receive these contributions and ensure, along with Governmental support, that post-programme recurrent management costs are met. To ensure transparency and efficiency in the use of these funds, a Nimba Foundation or other institution has been proposed (Annex 11). However, it is too soon to define what type of an institution this would be, and it is foreseen that it will be designed and created during the last sequence of the programme, using some preparatory funding from the project (GEF and co-financing). A fundraising strategy for the institution (beyond that provided by the Mining Consortium) will also be considered by the programme. Furthermore, it is likely that the institution will be overseen by a board including representatives of the mining company, the Guinean government, donors/international institutions like UNDP, GEF and UNESCO, and key representatives of the local communities.

Beyond the sustainable financing mechanism, revenue-generating options will be explored, the foremost of which is tourism whose potential is enormous. This requires attracting tourism operators and improving transportation, communications, quality of hospitality and health care, and more. Many of these improvements would be brought by the mining operation. Rules for controlling tourism to ensure it does not harm the core areas, and for sharing tourism revenues with local communities, will be established during programme implementation. Developing tourism represents a priority because of its potential as a long-term, non-consumptive means to generate sustainable revenue nationally and locally, well after the programme ends.

### **Result 5.5. Stakeholders better informed and aware of the issues and of resource conservation**

An information-education-communications (IEC) programme will be pursued alongside the other programme activities in order to support disseminating information about the programme, the environment and the Reserve. This IEC programme will evolve with the programme as new messages needing dissemination are identified. It will target not only communities but also local officials, decentralised sector government services and development agencies/programmes to raise their awareness of environment and biodiversity, and have these mainstreamed in their normal activities. Relevant lessons learnt will be disseminated at the national level as well, as part of the task of contributing to a national protected area system. Furthermore, specific laws and regulations pertaining to the execution of the Forestry Act, Wildlife and Hunting Act, and the Land Tenure and State Property Act, will be translated into local languages and disseminated to local communities and government authorities. Finally, local communities will be informed about how to conserve traditional knowledge and access rights, for example in relation to traditional medicines. In the event of medicinal plant enterprises developing in the area, the project will build capacity of local institutions and local government on how to ensure prior informed consent and mutually agreed terms of sharing access and benefits from both knowledge and genetic resources.

### **Result 5.6 Contribution to a national protected area system**

These set of activities will extract lessons and experiences from the Nimba programme, and will share these with other projects on protected areas, relevant Ministries, and the wider public. The programme will work with other protected area projects and the Ministry of Environment, to review existing national policies and legislation, and recommend modifications that would not only contribute to a coordinated national system, but also enhance the enabling activity for the sustainability of actions in the Nimba area. In close collaboration with the National MAB Committee and the National Directorate for Water & Forests, it is expected that a national coordination structure for national parks, which until now does not exist in Guinea, will be created. Furthermore, the programme will work to strengthen the capacities of decentralized sectoral services of the central government (Water & Forests, Environment, Agriculture, Health, Decentralization, etc.), rural development communes, local economic groupings and local NGOs, which will contribute in the long run to a strengthened national protected area system. Finally, it is expected that CEGEN will be able to take advantage of the preceding to enlarge its authority, with appropriate legislative action, to the Simandou Mountain region located in an area with similar geographical conditions to those of the Nimba Mountains.

## **17. SITUATION AT THE END OF THE PROGRAMME**

90. By the end of the programme, the GEF alternative will have created a situation in which:
- forest cover and soil integrity in the core areas of the Nimba Mountains Biosphere Reserve will have been restored, their boundaries will have been firmly established, any mine-related activity will have minimal negative direct and indirect impacts on the core areas, and the biodiversity of the core areas will be managed in a participatory and scientifically grounded manner, with a long-term, planned perspective;

- average incomes will have increased in real terms in at least 15 villages adjacent to the Reserve through improved agricultural practices, rationalized land tenure and land use, and the surface area cultivated in these same villages will have been stabilised and residents will have higher real incomes from both agricultural and non-agricultural activities;
- animal protein production for consumption and sale will be significantly higher and widely practiced, the incidence of kwashiorkor will have been reduced by 30% compared to the present indicating improved protein consumption, populations of species indicating over-hunting will be increasing in their natural habitats (monkeys, duikers, large birds) and (legally) non-protected wildlife will be sustainably managed by local residents;
- the geographic and financial accessibility of health services will have improved, as will the services themselves, throughout the Reserve, water supplies and other components of hygiene will have improved leading to a decrease in mortality rates for children under 5 of 20% (measured at the level of the entire population rather than at health centres);
- CEGEN will be functioning effectively and efficiently, in open collaboration with all other sectoral agencies, local authorities and Guinean and international assistance programmes and agencies, with the result by the end of the programme that no project will be undertaken that works against the objectives of the Biosphere Reserve but all fit into the Reserve's development masterplan; and
- a sustainable financial mechanism and possibly a 'Nimba Foundation' or other institution to manage the proceeds of the financial mechanism will have been established, funded by annual contributions from the mining company, possibly earnings of the financing mechanism, other contributions (donors, government, other) and locally generated income earmarked for the mechanism.
- Lessons learnt from the programme will have been incorporated into efforts to strengthen the national system of protected areas.

## 15. LINKS WITH ON-GOING PROJECTS

91. *Projects within Guinea.* In collaboration with the GEF, UNDP supported the preparation of the National Biodiversity Conservation Strategy and associated Action Plan that lay out the priorities incorporated into this programme. In addition to what it contributed to implementing the PDF-B, UNDP will support the programme by emphasising health and capacity-building of the institutions responsible for managing the Nimba Mountains' biological diversity, and by linking the programme with activities underway to reduce poverty in the Upper Cavally Basin. The programme was conceived also to develop synergies between the activities of rural co-operatives and communes in the Upper Cavally Basin, decentralised governmental sectoral services, other organisations under the administrative authority of National Directorates (particularly ERIB), development partners (IFAD, GTZ/KfW, UNESCO), neighbouring countries (Côte d'Ivoire and Liberia), local NGOs, affected populations and CEGEN. In order to best understand the problems related to sustainable management of the Nimba Mountains ecosystems, the PDF-B allowed the initiation of dialogue and a process of information-sharing between institutions. This work will continue, and synergies between relevant interventions in the Upper Cavally Basin will be achieved through workshops, seminars and/or by these institutions being contracted to

implement certain programme activities. UNEP's project for the Integrated Management of the Fouta-Djallon Highlands can provide technical insights and methodological models to follow for scientific exchanges and addressing land degradation inter-sectorally.

92. Amongst activities currently underway, the programme will collaborate closely with the ERIB, the RRMP, the Village Community Support Programme (VCSP), the Animal Husbandry Support Programme (AHSP), the PDIR-FG and the PDSFI/FG.
93. Several GEF projects under implementation or preparation will provide valuable lessons, information and other inputs to the current programme. Notably the Bamenda Highlands and Mount Mulanje projects will provide valuable lessons to the Nimba programme team on community-based forest resources management, managing threatened montane systems that resemble ecological islands, and possibly on sustainable financing mechanisms. The recently submitted WB/GEF PDF B for the "Community Ecosystem Management Program (CEMP)" is expected to enable and encourage local populations to apply integrated ecosystem management practices for sustainable land management, while maintaining and improving their well-being and livelihoods. The exact project site is expected to be determined during the preparation stage, and this Nimba Mountain project will offer complete collaboration in order build synergies. The programme will collaborate directly with the World Bank's Framework Protected Areas Management Project (PCGAP) project in Côte d'Ivoire, which will protect *inter alia* the Ivoirian Nimba Strict Nature Reserve, and will provide lessons on sustainable financing mechanisms for conservation.
94. The GEF-UNDP project '*In situ* conservation of endemic livestock in West Africa', currently under preparation, could provide appropriate breeding animals for intensive rearing as part of addressing the problems of insufficient local protein in the diet and increasing scarcity of wildlife.

## **LESSONS LEARNT AND APPLIED**

95. Aspects of the programme have been designed based upon the model established in the European Union-supported project supporting the Haut Niger National Park, in particular the method of training and organising village-based teams from around the park to patrol it.
96. Because the cane rat is a local delicacy in the Nimba Mountains region, and it has been successfully raised in captivity in neighbouring countries (Benin, Côte d'Ivoire, Burkina Faso), in 1996 CEGEN tried raising cane rats and snails in three villages adjacent to the Nimba Mountains in collaboration with the Environmental Studies and Research Centre of the Universities of Conakry and Laval (Quebec, Canada). The intended results of these trials were never realised due to the funding being abruptly halted. However many residents in the Reserve requested that the initiative be re-started in their village. In response, the Ministry of Scientific and Technical Research created the Cane Rat Breeding Research and Extension Institute of Guinea in 1999 in Moata, 30 km from the Nimba Mountains. This institute will provide significant technical assistance and advice to relevant parts of the programme.

97. The Nimba programme can benefit from initiatives in Benin and certain Central African countries working with the ECOFAC programme which have considerable experience in raising cane rats, giant snails and other domesticated wildlife. Lessons learned from the many initiatives targeting the so-called 'African bushmeat crisis', including the programme for 'Sustainable Use of Wildlife in the Congo Basin', currently under preparation, would assist this programme to address the same issues.
98. Bishop and Garnett (2000) provide detailed accounts of the environmental impacts of refugee movements in the Guinea-Sierra Leone-Liberia-Côte d'Ivoire border region since the 1990s. Their recommendations will be applied by those working with relief agencies to ensure environmental concerns are considered in humanitarian aid delivery and in the outline refugee contingency plan.
99. The programme will benefit from several related international initiatives, and be able to provide lessons and benefits to them in turn. Since September 2001, the tri-national initiative to launch tri-national planning and collaboration for transboundary environmental management of the Nimba Mountains has brought together technicians from the three countries sharing the Nimba massif – Guinea, Liberia and Côte d'Ivoire – to share information on the priorities and environmental problems facing the mountains. It has resulted in a series of recommendations and a preliminary action plan for transboundary collaboration, which national initiatives in each country will address. The overall goal of the process has been to initiate planning and collaboration between the three countries, allowing them to harmonise their current and planned interventions.
100. Sharing of lessons will come about through publishing and disseminating progress reports and lessons between GEF projects, contacts between project teams at regional conferences, and exchange visits with these projects. When Nimba team members travel, they will seek to visit other projects. As a World Heritage Site and Biosphere Reserve, two further networks of protected sites will be available to the Nimba team to share lessons and learn from others' experience. Finally, international NGO partners (such as FFI and Conservation International) share lessons and will encourage the project team to do so.

## **18. RISKS, SUSTAINABILITY AND REPLICABILITY**

### **18.1. Risks**

101. The risks related to implementing the programme were identified and responses designed. Industrial logging, if not controlled, can pose a serious potential threat to the Nimba Mountains. However, the President has recently imposed a ban on all log exports from *Guinée Forestière*, showing that the problem of forest loss has reached the President's attention, and it is expected to result in a serious reform of the forestry sector. At the local level, both the Nimba Reserve Management Plan, and the Development Master-Plan for the Upper Cavally Basin will directly address the issue of sustainable logging.
102. A second important risk could result from possible socio-political troubles in the sub-region, as was the case in the last decade. However the Upper Cavally Basin is at peace and

politicians and the countries concerned are making efforts to ensure that this peace lasts. And perhaps more importantly, the local communities have agreed to a principle of pacification.

103. The impacts of mining and of non-mining resource exploitation by the populations adjacent to the Biosphere Reserve must be monitored and channelled in directions that support the sustainability of the Nimba Mountains' biological diversity. Currently mining provides hope for the social and economic development of the Upper Cavally Basin. If mining does not occur, local feelings of "conservation against development" would be reinforced,.
104. The programme could act as a magnet, drawing in people seeking development assistance, or refugees fleeing neighbouring countries. However the likelihood of large-scale immigration is small given that the assistance to be provided will be dispersed and targeted to existing community groupings, and capacity of local communities and government will be enhanced for land use planning, contingency planning for refugees and conflict resolution.

## **18.2. Sustainability**

105. Programme sustainability will be achieved by removing or at least reducing the many barriers to conservation and integrated management of the Biosphere Reserve. Furthermore the programme is designed over 9 years, allowing a favorable time span for testing, refining, replicating and consolidating the material and human elements, as well as for creating the momentum necessary to ensure effective management of the Reserve's core areas, and eventually collaborating with neighbouring populations in support of this.
106. Through information exchanges with other initiatives in Guinea, regular independent and internal evaluations, and participation in international conservation networks and information exchange offered by the GEF, UNESCO and partner INGOs, the programme will flourish and be nourished by other programmes and lessons, increasing its likelihood of success and sustainability.
107. *Institutional sustainability.* As stated previously, a major emphasis is placed on building institutional and inter-institutional capacity. This is a matter of improving the skills of CEGEN's staff, assisting the organisation to acquire the trained staff it needs to carry out its mission, instituting an internal M&E system to improve individual and organisational efficiency, and providing pedagogic and professional resource materials for staff to improve their knowledge and answer operational questions as they arise. It consists also of clarifying the legal roles and responsibilities of CEGEN, and ensuring that these are known and accepted by all stakeholders in the NMBR.
108. Inter-institutional sustainability is expected through establishment of forums for agencies intervening in the NMBR to share information and perspectives, co-ordinate and plan activities, mainstream biodiversity conservation, and realise the synergies that have not been realised to date. The programme will provide not only the opportunity to discuss these issues, but to work out pragmatically how co-ordination will happen in the field and how,

practically speaking, roles and responsibilities will be allocated. Finally, legal action to recognise the zoning of the NMBR in Guinean law is critical to provide the basis on which the programme will intervene and ensure sustainability beyond the life of the programme.

109. *Social sustainability.* The success of the programme will depend also on the beneficiaries internalising its objectives, most particularly the people experiencing constraints due to conservation. The development alternatives are locally accepted, as they were cited by local residents as their primary concerns. Drawing on on-going lessons from past and current projects, these goals will be delivered effectively so they do not create a culture of dependency but rather one of independence. Local communities furthermore must not perceive development support as merely their “right to a cut” of the rent from biological diversity, without changing their practices. This requires a patient and time-consuming approach involving dialogue, incentives for those who grasp and act on the philosophy applied, and strong protection measures for the core areas so that both carrot and stick are unambiguous. The 9-year programme timeframe and the integrated, and iterative approach to programme planning that began with the PDF and will continue throughout the programme’s lifetime, should ensure that the programme has the time to communicate the necessary messages, and establish and replicate positive and locally appropriate development models and incentives that will continue beyond the end of the programme and with relatively modest future inputs.
110. Another key aspect of social sustainability is for the appropriate mechanisms to be established for communities to communicate their needs, perspectives and concerns related to the overall Reserve, and for them to be genuinely and recognisably involved in and supportive of Reserve planning and protecting the core areas through village-based patrols. This will be demonstrated at the Bossou Hills which will be co-managed as a community reserve. While established informally during the preparatory phase, these mechanisms will be formalised so that they continue to function after the programme ends.
111. *Biological sustainability.* Ultimately the programme seeks the biological sustainability of the Nimba Mountains’ biodiversity. This will be tracked via the ecological monitoring system so that trends, both positive and negative, are identified and appropriate management responses taken. The strong measures and attention dedicated to minimising the negative direct and indirect impacts of the proposed mining operation, and working with the mining partners so they contribute directly and indirectly to biodiversity conservation in the Reserve, will ensure that mining is primarily an asset to biodiversity conservation rather than its adversary. Collaboration with neighbouring Liberia and Côte d’Ivoire will greatly enhance management activities across the full Nimba ecosystem, of which Guinea contains just a portion.
112. *Financial sustainability.* By addressing the numerous barriers to conservation in the NMBR, the programme should have significantly reduced the recurrent costs of conservation and local development support. Thus the GEF-supported programme will allow activities to continue after the programme ends with the more modest support provided by (1) the Government of Guinea (to CEGEN whose staff will triple and be paid by Government, and to

decentralised sectoral services active in the Reserve), (2) the mining company (annual contributions to a fund, possibly complemented by earnings if it is established as an endowment, and managed by a Nimba Foundation or similar mechanism), (3) other donors to the fund (to be identified during implementation) and (4) other revenue sources such as tourist income, which will probably be relatively modest initially. No GEF funds are currently requested to capitalise the fund or financing mechanism.

### **18.3. Replicability**

113. The philosophy of the programme is to design, test, adjust and replicate approaches to all activities. For this a long-term time-frame was chosen specifically to ensure that approaches can be tried, refined and consolidated. For example agricultural, animal husbandry and health-related support will be designed, trials led in the buffer zone, evaluated, adjusted, possibly re-tested and eventually replicated throughout the Reserve. Community management of a forest reserve will be tested in one core area and lessons replicated in the country.
114. Lesson-sharing from this programme will be accomplished through publishing and disseminating progress reports and lessons from its independent evaluations. Project evaluations and efforts through the GEF, UNDP and UNESCO will play active roles in disseminating lessons and establishing contacts with other projects. Contacts between project teams at regional conferences and exchange visits with similar projects will be important means to disseminate lessons, as will using consultants with experience from other projects. The tri-national dialogue and co-ordination process for the Nimba Mountains can potentially provide a regular and tangible means to share experience and replicate good practices across national boundaries but within the same larger ecosystem. Likewise, international NGO partners, such as FFI, will bring their experience from other countries to Guinea and will export lessons from Nimba to other projects in Africa and in other continents.
115. Collaboration with the mining sector is one of the most significant potentially replicable aspects of the programme since it has not yet been tried in Guinea nor in the sub-region. Experiences and lessons will be evaluated and written up in the programme evaluations, and shared through global reviews and exchanges organized by the GEF. The Ministry of Mines, Geology and Environment (MMGE), which is responsible for both Mines and Environment and in which CEGEN is institutionally situated, takes a strong interest in the programme and can apply lessons in other mining regions (CBG at Kamsar, CBK at Débélé, SAG at Sigui, AREDOR at Kérouané, Rio Tinto at Simandou) and protected areas (Ziama Biosphere Reserve, Haut Niger National Park, Kankan Faunal Reserve, Niokolo-Badiar National Park) with the assistance of the national MAB Committee. However the experience is of great interest also to UNESCO, which has played an active role in harmonising the sometimes competing interests of conservation and mining at Nimba for over a decade, and to FFI, IUCN and other potential NGO partners who have entered into strategic partnerships with major multi-national mining companies. All partners will actively monitor the evolution of

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<sup>10</sup> When Nimba team members travel, they will seek to visit other projects.

the partnership with the mining company and draw and apply lessons learned elsewhere in Africa and around the world.

## **19. STAKEHOLDER PARTICIPATION AND IMPLEMENTATION ARRANGEMENTS**

### **19.1. Programme preparation and planning**

116. During the programme's preparation and planning, supported by the PDF-B, UNDP and UNESCO, stakeholder participation was actively sought through consultations, an awareness workshop for local populations, village meetings, consultations with donors (AFD, FFEM, USAID, the European Union, UNESCO's World Heritage Centre, GTZ/KfW, Japan, Canada, the World Bank), mining partners (MIFERGUI, BHP-Billeteon, Rio Tinto), RDCs, NDWF, NDE, NDSTR, NDA, NDH, natural resources management projects (RRMP and LISP- Local Initiatives Support Project), local NGOs (UVIDoZ, GSSIDSAH, etc.) and international NGOs (FFI - Fauna & Flora International and CI - Conservation International). In total, more than 500 individuals were involved in the preparation of the PDF B.

117. Thus, first, detailed thematic reports were prepared based on literature reviews, consultations with populations surrounding the Reserve and local authorities, previous studies and in particular those of the NMPP, and consultations with concerned governmental and development agencies. Consultations in the Nimba region included numerous information dissemination meetings with affected populations and local authorities in the Reserve and in the nearby prefectural capital of Lola. The thematic reports were reviewed by a steering committee composed of relevant agency representatives and formally approved.

118. Then in October 2001, approximately 50 representatives of the relevant RDCs, of local women's organisations, of decentralised sectoral services (NDWF, NDSTR, NDL, NDA, NDE and NDH), of development programmes active in the region, and the PDF B's national and international consultants participated in a ZOPP workshop at the Nimba Mountains to plan the programme in detail, to reinforce consensus, mutual understanding, trust and cohesion, to train and inform all stakeholders of the complexity and inter-relatedness of developmental and environmental considerations, and to construct the logical framework of the full programme.

119. Additional local information meetings were held to disseminate the results of the planning process among affected communities. This led to written commitments from local communities via the RDCs to provide the in-kind contributions worth approximately \$100,000.

### **19.2. Implementation Arrangements**

120. The programme will be nationally executed through UNDP's standard NEX arrangements. The GEF contribution will be handled by the UNDP country office, and executed by the MMGE via CEGEN, which will be responsible for day to day execution of

the programme. UNDP, as the primary implementing agency, will provide administrative and technical assistance to CEGEN. It will advise on recruiting consultants and preparing thematic reports, and will be responsible for opening the programme's bank account and for monitoring expenditures. It is expected that the funds from the Mining Consortium will also be managed through the UNDP in a separate account until such time as the Foundation is established and an appropriate administrative procedure put in place. UNESCO, FFI and CI are expected to provide advise on research, training needs and management of the programme. Furthermore, NGOs such as FFI may be called upon in the first few years, to supplement the capacity of CEGEN.

121. UNDP will hire a National Administrator according to current UNDP/GEF procedures to work alongside CEGEN Director. (S)He will work with all due autonomy and without interference by the Ministry or CEGEN's management, although (s)he will work intimately with CEGEN. UNDP expenditures will be certified by a National Co-ordinator (NC), a senior civil servant named by MMGE from the Minister's Cabinet and with UNDP's approval, to oversee the programme on behalf of government (not a full-time role). CEGEN (for matters relevant to this programme) will report to the NC and receive instructions through the NC on behalf of Government. Full details on programme management, including terms of references and organigram will be developed during the Appraisal stage after GEF Council approval of the Brief.
122. A Programme Steering Committee will provide general supervision to the initiative, acting as the overall decision-making body and approving reports, annual workplans and evaluations. It will be composed of representatives of national directorates and/or decentralised sectoral services (NDWF, NDSTR, NDL, NDA, NDE and NDH), and will include representatives of mining companies, ERIB, the RDCs of Bossou and N'Zoo and local NGOs (especially those involved in protecting the Nimba Mountains), too. The Steering Committee will include donors such as the GEF, UNDP and UNESCO. This Committee will meet two times per year. The National Coordinator will ensure the secretariat of the PSC.
123. As CEGEN does not currently have all the requisite skills needed to carry out its mandate, staff with needed skills will be recruited from elsewhere within as well as outside the public sector. Staff thus brought into CEGEN will be integral members of the programme execution team, and will gradually be made official members of CEGEN as the programme is implemented, until there is full integration with government structures at the end of the programme. Until such time as are made official members of CEGEN, they will be hired by an NGO and seconded to CEGEN. CEGEN will be supported as needed by national and international consultants, as well as UN Volunteers. The Director of CEGEN and National Administrator will be assisted by a Chief Technical Advisor (CTA) for part of the programme. The National Administrator and CTA will effectively transfer all operational responsibilities to CEGEN throughout the programme as part of building CEGEN's capacity so that CEGEN's staff becomes able to continue all activities in the post-programme period.

124. The Guinean government will provide technical support to the programme not only through CEGEN but through its decentralised sectoral services such as the National Directorates for Water and Forests, Scientific and Technical Research, Livestock, Agriculture, Environment and Health, whose interventions will be co-ordinated by CEGEN as specified in Component 5.

## **20. PROGRAMME FINANCING**

### **20.1 Programme Financing and Incremental Costs**

125. The Baseline is estimated to be \$5,640,000 and the Alternative proposed is expected to be \$17,076,900 (see Annex 3). Anticipated GEF financing, including the PDF-B funds, comes to US\$ 3,990,000. The total cost of the programme is estimated at US\$ 11,436,900 (excluding the PDF B) of which US\$ 7,776,900 will come from sources other than the GEF. The ratio of GEF to other financing is 32% to 68%, and about 5% of the total budget is in-kind contribution. Among the sources of cash co-financing are Government of Guinea, UNDP, UNESCO/UNF, the mining company, and FFI. Other donors have also expressed interest, such as CI and Japan, and if confirmed, these will be negotiated during the Appraisal phase.

126. The Guinean government will provide US\$ 330,500 in cash, largely to components 2-4, and approximately US\$ 500,000 in kind through staff, office space, transportation and other critical programme infrastructure and services. Because the programme will use a participatory approach, it is estimated that stakeholders who will benefit from rural development support will contribute approximately US\$ 100,000 in kind in order to implement the programme (land, labour, small equipment). No GEF funds are requested at this stage to capitalise the sustainable financing mechanism.

127. The original financing plan proposed at the time of PDF B submission expected a GEF contribution of \$6 million for a total programme of \$ 10 million. These figures have been revised based on actual needs of the protected areas and population (resulting in a slight increase of the total budget), and the strong interest of co-financing partners, particularly the commitments of the Mining Consortium (resulting in a decrease in the GEF contribution).

128. The programme will be operationally linked to achievement of benchmarks, but not phased in terms of GEF allocation. All GEF funds will be secured at the time of Work Program Entry. Operational and actual disbursement of funds by UNDP will be based on achievement of benchmarks that have been identified in the logframe. Details of this operational strategy will be negotiated and developed at the time of Programme Appraisal, and presented for CEO endorsement.

**Programme Output Budget (in thousands dollars)**

<b>Component</b>	<b>GEF</b>	<b>Government Of Guinea*</b>	<b>UNDP-TRAC</b>	<b>UNESCO, UNF, FFI</b>	<b>Mining Consortium</b>	<b>Local* communities</b>	<b>TOTAL</b>
<b>1. Ecological integrity of Reserve assured</b>	2,160	320	0	500	1,314	0	4,294
<b>2. Agricultural revenues increased</b>	20	82.5	377	0	1520.6	40	2040.1
<b>3. Sustainable harvesting of bushmeat and medicinal plants</b>	740	0	56.6	100	309.4	30	1236
<b>4. Improved health conditions</b>	0	268	876.8	0	344	30	1518.8
<b>5. Strengthened capacities and protected area system</b>	740	160	336	100	1012	0	2348
<b>TOTAL</b>	<b>3,660</b>	<b>830.5</b>	<b>1,646.4</b>	<b>700</b>	<b>4,500</b>	<b>100</b>	<b>11,436.9</b>

\* Local communities are providing in –kind resources. Government contributions are both cash and in-kind.

## **20.2 Cost-effectiveness**

129. While total programme costs appear relatively substantial for the surface area, this can be explained for several reasons. First as the programme represents a fully integrated conservation and development initiative over nine years. It incorporates interventions across four sectors – environmental conservation, agriculture, animal husbandry and health – all of which are linked to the biodiversity of the Nimba Mountains. To ignore these links and focus on protected area management alone would be technically short-sighted and self-defeating. The resources dedicated strictly to conservation (component 1) are in fact much more modest, totalling approximately \$500,000 per year. Much of these costs represent initial investment costs and post-programme recurrent costs are expected to be lower.

130. Second, CEGEN has had almost no presence to date in the Reserve and relatively weak capacity. Once the obstacles of setting it up and equipping it on-site and building key capacity within it are overcome, again, recurrent costs will stabilise at a moderate level.

131. Third, CEGEN's mandate requires it to carry out not only classic protected area management but also to act essentially as a Planning Ministry in miniature for the Reserve. Thus the staff and capacity needed by CEGEN are significantly broader than for standard protected area authorities. Given the multi-disciplinary capacity requirements of CEGEN, and the level and number of staff needed to fulfil its mandate effectively, CEGEN's technical and managerial staff is in fact relatively lean. The modest and declining dependence of the programme on external technical assistance, the use of United Nations Volunteers, and CEGEN's entirely Guinean staffing structure render the programme cost-effective at fulfilling its long-term mission. The cost for a fully integrated conservation and development programme comes to approximately \$8.50/hectare-year, and is commensurate with the absorptive capacity of the country

## **21. MONITORING, EVALUATION AND DISSEMINATION**

132. Programme monitoring and evaluation will be both internal and external. Internal monitoring and evaluation will be conducted for each programme component under the supervision of the National Co-ordinator. Each component will be monitored by the appropriate programme personnel and will include information on staff, budget and technical and administrative matters (see Annex 6). This system will involve regular meetings to review progress. Monitoring and evaluation indicators appear in the logical framework (Annex 2). An institutional monitoring & evaluation system for CEGEN and the Technical Support Unit will seek to strengthen CEGEN's capacity throughout the programme, too.

133. During programme implementation, the results for indicators will be transmitted monthly by the managers of programme components to the National Administrator to the National Co-ordinator who will consolidate them in a summary table for the programme. Every semester, the summary table produced will be circulated to programme partners. In addition, once per year a monitoring and evaluation report on the past year's activities will be produced. Measures will be taken during the Steering Committee meetings to resolve problems encountered.

134. Three external independent evaluations are planned (in addition to annual audits); one each after the first and second sequences, and a final evaluation. These will be conducted in line with GEF and UNDP procedures. They will focus on four main objectives:

- ☞ Measuring impact on globally significant resources and livelihoods;
- ☞ measuring the performance differences between what was planned and what was achieved;
- ☞ identifying problems related to executing the planned activities;
- ☞ proposing corrective measures and solutions; and
- ☞ extracting and documenting any more general lessons for this and other programmes.

135. The project strategy, workplan, and activities may be revised to match expected goals and impacts as a result of the recommendations of the first two independent evaluations. The final evaluation will result in an exhaustive report as the programme ends on its

achievements (programme performance, impact and lessons learnt). The costs of monitoring and evaluation are taken into account in the programme budget, and will be detailed during the Appraisal phase.

136. Results and lessons learnt from the programme will be disseminated both within the Reserve as well as through the national protected area system, the CHM of the CBD, and other relevant national and international networks. Funds will be made available for programme staff and local community leaders to participate in relevant international and regional events to share experiences and analyse impacts and results.

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**Annex 1: Problem tree**

**Annex 2: Programme Logical Framework**

**Annex 3: Incremental Cost Calculation**

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**Annex 5: Stakeholder participation plan**

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**Annex 15: Maps and photos of the Nimba Mountains Biosphere Reserve**

***15a*: Location of the Reserve**

***15b*: Zoning model of the Reserve**

***15c*: Vegetation map of the Reserve**

***15d*: Images and views of the Nimba Mountains**

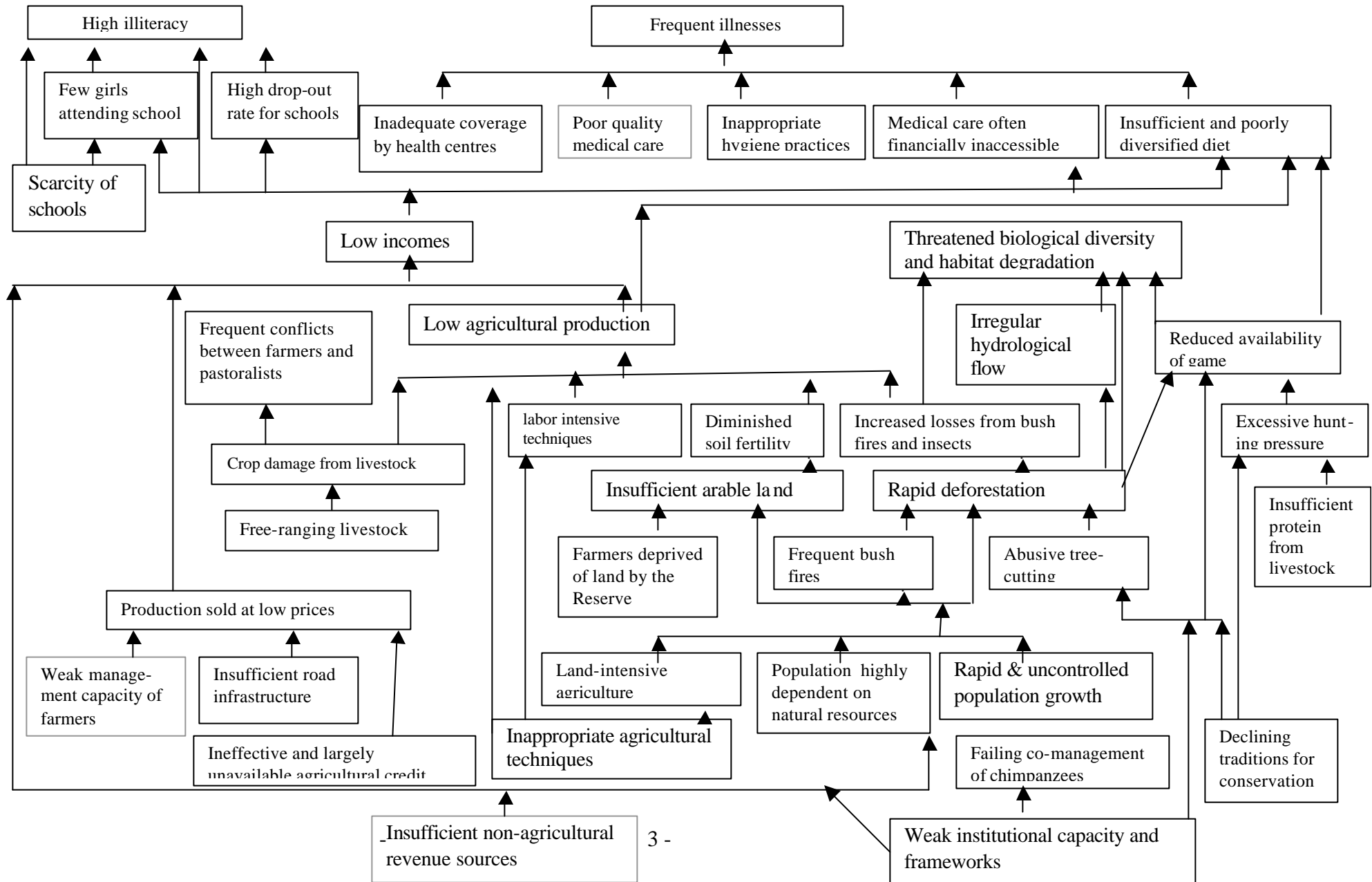
**Annex 16: Acronyms**

**Annex 17: Bibliographic references**



**Annex 1A. Problem Tree**

For reasons of legibility, the problem tree is presented here in two parts: the main tree describing problems encountered on-site at the Reserve and the « branch » of the tree for institutional problems, that relate to institutional behaviour, that attaches to the several problems in the main tree indicated with grey shading.



**Annex 1B. Threats/root causes and solutions matrix**

<b>Priority problem</b>	<b>Threats and Intermediate causes</b>	<b>Root Causes</b>	<b>Proposed solutions (Results)</b>
1. Loss of globally significant biodiversity (fauna and flora)	Over-utilisation of fauna and game	Low incomes	Boundaries of the core areas recognised, legalised and demarcated (1.1)
	Potential over-utilization of medicinal plants	Institutional weaknesses	Management actions for core areas identified with participation of buffer zone villages (1.2)
	Potential Abusive Forestry	Low nutrition	Decrease in incursions and illegal activities in the core areas (1.3)
	Decline in traditional conservation knowledge and techniques	Low productivity of agriculture and animal husbandry	Diversified income sources enhanced (2.4)
			More productive animal husbandry, integrated with agriculture (3.1)
			Domestication and breeding of wild animals tested and disseminated (3.2)
			Wildlife resources and natural medicinal plants co-managed with local populations in a sustainable manner (3.3)
			An operational ecological monitoring system (5.3)
			Guaranteed long-term funding for conservation (5.4)
			Stakeholders better informed and aware of the issues and of resource conservation (5.5)
		Contribution to a national protected area system (5.6)	

## Annex 2. Programme Logical Framework

	<b>Intervention Logic</b>	<b>Objectively Verifiable Indicators</b>	<b>Sources of Verification</b>	<b>Assumptions</b>
<b>Goal</b>	Contribute to the conservation of biodiversity and world heritage in a manner compatible with sustainable development			
<b>Overall programme objective</b>	Core areas of the Nimba Mountains Biosphere Reserve protected in a manner compatible with local sustainable development needs	Removal of the Nimba Mountains from the List of World Heritage Sites in Danger by programme completion Average income in the buffer zone increased by 10% , and in the transition zone by 5% by end of programme.	UNESCO publications  Ministry of Planning or intl development agency (UNDP, UNHCR, AFD, EC, other) statistics	Political atmosphere that permits pursuing sustainable development
<b>Specific objectives</b>	1. Ecological integrity assured for the three Core Areas of the Nimba Mountains Biosphere Reserve	Forest cover restored in all degraded parts of the core areas by end of programme Boundaries of the core areas legalised and respected by mid-term Stabilisation or increases in populations of key indicator species by end of programme	CEGEN's ecological monitoring system Official legal documents setting the boundaries of the core areas	Lack of climate change or other external natural disturbance to the NMBR Inclusion of the NMBR on the list of officially protected areas of Guinea
	2. Sustainable land use and Agricultural revenues of local people increased on the basis of more productive practises	Land use in buffer and transition zones rationalized and plans enforced by end of programme Average revenues of farmers increased in real terms by 20% in at least 15 target villages by end of programme Stabilisation of the area cultivated by the same villages by end of programme	Revenue surveys/reports of decentralised sectoral services from the region CEGEN's ecological monitoring system	Revenues are not invested in harmful activities and do not incite additional immigration
	3. Local needs for animal protein more fully met using practises that do not damage wildlife	Reduced incidence of kwashiorkor by 30% in 15 beneficiary villages by end of programme Species indicating over-hunting increasing in their natural habitats (monkeys, antelopes, large birds) by end of programme	Surveys of health and nutrition  CEGEN's ecological monitoring system	Revenues are not invested in harmful activities and do not incite additional immigration
	4. Improved health conditions, in particular among the neighbouring villages subject to constraints from the Reserve	Mortality rate for children under 5 years reduced by 20% in at least 15 local villages (measured at the level of the	Reports from the National Directorate of Health	The compensation offered by the programme is not viewed as a reward or encouragement

		population and not at health centres) by end of programme		to harm the Reserve
	5. Strengthened capacity of the Reserve's management structures, mainstreaming of biodiversity conservation, and contribution to national protected area system	<p>Programme is managed effectively by CEGEN; Specific objectives 1-4 are realised according to plan (measured continuously)</p> <p>All agencies are working coherently together and synergies are realised between interventions in the Upper Cavally Basin; no activity is undertaken that works against the objectives of the NMBR (by end of programme)</p> <p>National coordination system for parks established by end of programme</p>	Programme evaluation reports	Consistency of personnel (CEGEN) who are willing to relocate to the Nimba region

**Logical Framework for Component 1: Ecological integrity assured for the core areas of the Nimba Mountains Biosphere Reserve**

	<b>Intervention Logic</b>	<b>Objectively Verifiable Indicators</b>	<b>Sources of Verification</b>	<b>Assumptions</b>
<b>Overall Programme Objective</b>	Core areas of the Nimba Mountains Biosphere Reserve protected in a manner compatible with local sustainable development needs			
<b>Specific Objective</b>	1. Ecological integrity assured for the three Core Areas of the Nimba Mountains Biosphere Reserve	Forest cover restored in all degraded parts of the core areas by end of programme Boundaries of the core areas legalised and respected by mid-term Stabilisation or increases in populations of key indicator species by end of programme	CEGEN's ecological monitoring system Official legal documents setting the boundaries of the core areas	Lack of climate change or other external natural disturbance to the NMBR Inclusion of the NMBR on the list of officially protected areas of Guinea
<b>Expected Results</b>	1.1. Boundaries of the core areas recognised, legalised and demarcated	Official maps by third year Legal documents by third year Beacons and signposts in place by midterm All relevant RDCs (4) state their acceptance of the boundaries by sixth year	Maps Legal documents Reports with photos  Co-management contracts and signed statements from RDCs	
	1.2. Dynamics of the core areas' biodiversity known, threats precisely described and management actions identified with participation of buffer zone villages	Ecological monitoring system based on vegetation/forest cover and indicator species: Establishment by year 3 4 years of data by year 7 7 years of data by end of programme	Data base Reports analysing the data  Local community perceptions	The ecological monitoring system (component 5) is operational
	1.3. Decrease in incursions and illegal activities in the core areas	Frequency of infractions per patrol-day decreased by: 20% by year 3, 50% by year 6, and 70% by end of programme	Reports on the law enforcement system	Local law enforcement accepts that the core areas are to be protected. The managers of the mine get involved in protection efforts, mine personnel respect the authority of the Reserve's guards. Community assistance actions

				(esp. components 2+3) are adequately effective.
	<b><i>1.4 Improved compatibility of planned mining activities, and strengthened cooperation.</i></b>	Detailed environmental study of all possible developments Mining Consortium contributing as expected to Foundation/Fund by end of programme	CEGEN reports and EIA	
	1.5. Management plan prepared and implemented for the three core areas, with full participation of local communities	Core areas' management plan focusing on the three areas: Preliminary versions by year 3, final versions by year 6.	Management plans (documents)  Local community perceptions	The mining company agrees to the Nimba Mountains' management plan & effective collaboration in place with neighbouring countries. ERIB and its researchers adopt a participatory approach (Bossou Hills). The forestry industry and farmers accept the restrictions needed for conservation; successful planning and collaboration with Côte d'Ivoire (Déré Forest)
	1.6. Impacts of refugees do not affect the core areas	Refugee camps located far from core areas, by year 3 Reported infractions in Core Areas not committed by refugees. Refugee contingency plan developed by year 3	Reports of humanitarian agencies active in the area (UNHCR, WFP, etc.) and of CEGEN; refugee contingency plan (document)	Humanitarian agencies willing to work with CEGEN and its partners to address environmental concerns
<b>Activities</b>	1.1.1. Complete the process of legalising the Core Areas			
	1.1.2. Demarcate the boundaries of the core areas			
	1.2.1. Study the impact of fires, evaluate human impacts on fire dynamics and identify appropriate management responses			
	1.2.2. Develop a deeper understanding of the impacts of mining activities, including those related to introduced species			
	1.2.3. Develop a deeper understanding of conservation priorities, including indigenous knowledge, and identify solutions with participation of local communities			
	1.3.1. Design, equip and organise a patrol-cum-protection system			
	1.3.2. Involve local populations in the protection-cum-patrol system			
	1.3.3. Organise co-operation with public law enforcement agents			
	1.4.1. Monitor developments in the mining project and prepare precise environmental guidelines			

#### 1.4.2. Leisure centre or gym ?

The leisure centre, gym and health club, what's the difference between them and why will this make any difference to you? We decided this was a very important factor to highlight prior to your joining any facility based on your needs and budget. Probably the most important difference will be the price you pay for the facilities you get in return, followed by the environment and equipment that you then use.

**Leisure centre** These are be funded and managed by local authority councils. They may or may not have a gym or health club within the facility (this may be run by an external company that specialises in offering this service) but the quality of the centre itself will vary. The price will be considerably cheaper than private members clubs and you will also get a large sports hall (badminton, basketball, basic fitness classes), a swimming pool (usually 25 metres), possibly squash courts, but relatively basic shower and changing facilities.

**Gym** The image conjours up free weights, basic machines and CV equipment. Increasingly they are moving away from the image of muscle-bound males with rippling muscles but there are still a few dedicated bodybuilding and weight-lifting gyms to be found. generally speaking the equipment will feature a gymnasium with free weights, machines and cardiovascular machines (e.g. treadmills, rowers, steppers) and there may be an aerobics studio for a range of classes. There will normally be few frills, although there should be showering facilities. Importantly they are reasonably priced than many health clubs, as the facilities are more basic.

**Health Club** Finally, the largest growth market in the UK over the past 5-6 years, private member health clubs. They will offer much the same as any gym, but you will also get an array of additional facilities such as saunas, Jacuzzi or spa pools, tennis courts, restaurants, bars, creches and more. The changing rooms may have free towels and products and increasingly you are also able to have beauty treatments, physiotherapy and sports injury massage within the larger facilities. Needless to say the membership is a lot more pricey, typically starting at around £35 per month after you have paid a sizeable joining fee.

	1.5.1. Prepare and implement a management plan for the World Heritage Site, after consultations on relevant matters with the mining project, local populations and relevant authorities in the neighbouring countries, and based on data collected above
	1.5.2. Prepare and implement a management plan for the Bossou ecosystem after consultations on relevant matters with local populations and ERIB
	1.5.3. Prepare and implement a management plan for the Déré ecosystem after consultations on relevant matters with the National Directorate for Water & Forests, Côte d'Ivoire and local populations
	1.6.1 Liaise with humanitarian agencies to ensure incorporation of environmental concerns in relief work, including siting & sizing of camps and providing appropriate employment & income-generating activities
	1.6.2 Develop with humanitarian agencies a refugees contingency plan in case of future refugee movements

**Logical Framework Component 2: Agricultural revenues of local people increased on the basis of more productive practises**

	<b>Intervention Logic</b>	<b>Objectively Verifiable Indicators</b>	<b>Sources of Verification</b>	<b>Assumptions</b>
<b>Specific Objective</b>	2. Sustainable land use and Agricultural revenues of local people increased on the basis of more productive practises	Land use in buffer and transition zones rationalized and plans enforced by end of programme Average revenues of farmers increased in real terms by 20% in at least 15 target villages by end of programme Stabilisation of the area cultivated by the same villages by end of programme	Revenue surveys/reports of decentralised sectoral services from the region CEGEN's ecological monitoring system	Revenues are not invested in harmful activities and do not incite additional immigration
<b>Expected Results</b>	2.1 Sustainable land use systems	Local communities and local government have established land use plans by year 4 Refugee contingency plans (result 1.6) take into account land use planning principles	Reports of partner agencies working in the area of improving agricultural production (IFAD, AFD/PDSFI, etc.)	Local government is willing to include local communities in developing land use plans
	2.2. Increased agricultural yields	Annual rice production per hectare sown increased by 10%/year on upland sites without increasing soil depletion beginning in the 3 <sup>rd</sup> year in target beneficiary villages. Proportion of rice production from irrigated sites increased in beneficiary villages by 5% in year 3, 20% in year 6, and 40% by end of programme. 5 ha/year prepared for irrigated agriculture starting in year 3 Sales of products other than rice increase by 25% every three years in target beneficiary villages	Agricultural statistical reports for the prefecture and for Guinée forestière  Reports of partner agencies working in the area of improving agricultural production (IFAD, AFD/PDSFI, etc.)	Increasing agricultural production does not entail any unforeseen health or environmental risks
	2.3 Improved incomes from agricultural produce sold for higher prices	Net sales price per kilo of rice for farmers in the NMBR, with all charges/fees deducted, increased by 15% by year 6 and 30% by	Local market surveys and surveys at Lola	The (former) middlemen do not block the initiative IFAD, LISP and/or another agency or programme provides

		end of programme		the necessary credit
	2.4. Diversified income sources	Income from non-agricultural sources increase in beneficiary villages by 10% in year 6 and 20% by end of programme Statistical reports from the Lola Prefecture and from the decentralised sectoral services of the Ministry of Economic Planning		Demand and marketing channels exist for local goods and services. Developing agricultural processing industries helps to economise resource use rather than increase pressures
<b>Activities</b>	2.1.1. Develop a deeper understanding of the social and land-tenure constraints linked to agricultural intensification			
	2.1.2. Develop capacity for land use planning with local government and local communities			
	2.1.3. Develop land use plans, either for each community, or by commune, that take into account Refugee Contingency Plans			
	2.1.4. Disseminate and enforce land use system			
	2.2.1. Support improvements in cultivation methods (soil improvements like soil conservation methods, fertilisers, manures and other inputs, development of low-lying areas for irrigation, introduction of improved seed varieties, etc.)			
	2.3.1. Improve understanding of marketing channels			
	232. Improve storage techniques and how produce is marketed			
	233. Strengthen the negotiating skills of farmers' co-ops/communes/other groupings			
	234. Facilitate access to credit			
	241. Promote local micro-industry			
	242. Encourage the introduction of simple processing technologies of agricultural produce			

**Logical Framework Component 3: Local needs for animal protein more fully met using practises that do not damage wildlife**

	<b>Intervention Logic</b>	<b>Objectively Verifiable Indicators</b>	<b>Sources of Verification</b>	<b>Assumptions</b>
<b>Specific Objective</b>	3. Local needs for animal protein more fully met using practises that do not damage wildlife	Reduced incidence of kwashiorkor by 30% in 15 beneficiary villages by end of programme Species indicating over-hunting increasing in their natural habitats (monkeys, antelopes, large birds) by end of programme	Surveys of health and nutrition  CEGEN's ecological monitoring system	Revenues are not invested in harmful activities and do not incite additional immigration
<b>Expected Results</b>	3.1. More productive animal husbandry, integrated with agriculture	Number of beneficiary villages: 5 villages by year 3, 12 villages by year 6, and 20 villages (end of programme) Productivity of beneficiary villages increased by: 5% by year 3, 20% by year 6, and 35% end of programme	Programme activity reports Reports on animal husbandry by technical sectoral services and relevant development agencies (National Directorate for Livestock, CRBREIG, AFD/AHSP, GTZ/RRMP)	Production or profits accruing to local populations
	3.2. Domestication and breeding of wild animals tested and disseminated	10 experimental trials underway to raise 2 wild species by year 3, 10 experimental trials underway to raise two new species by year 6. 15 wildlife -raising micro-enterprises launched by year 6. 10% of animal protein produced in the NMBR from local inhabitants raising domesticated wildlife species by end of programme	Programme activity reports  Reports on animal husbandry by technical sectoral services and relevant development agencies (Natl. Directorate of Livestock, CRBREIG, AHSP, RRMP)	Such breeding projects do not encourage increases in pressure on protected wild populations
	3.3. Wildlife resources co-managed with local populations in a sustainable manner	Abundance of target species: stabilised and baseline level established by year 3 increased by 20% by year 6, and increased by 40% by end of programme. Off-take of these species:	Ecological monitoring system (Activities 5.3.1-2) Studies of hunting and consumption of bushmeat	Hunting pressures are not increased by the mine

		stabilised by year 6, and increased by 20% by end of programme		
<b>Activities</b>	311. Develop the management skills of animal husbandry co-ops/communes/ groupings			
	312. Facilitate access of individuals or groups raising animals to extension services and inputs			
	321. Develop a deeper understanding of past and current trials to raise wild animals in captivity			
	322. Establish animal husbandry trials for wild animals			
	323. Study the technical, economic and social feasibility of these trials			
	324. Progressively replicate breeding schemes for the most promising wild animals			
	331. Raise awareness of those who hunt or collect wildlife of the principles of sustainable management and of enforcement of relevant laws			
	332. Promote simple management practises for the most widely consumed wildlife species			

**Logical Framework Component 4: Improved health conditions, in particular among the neighbouring villages subject to constraints from the Nimba Mountains Biosphere Reserve.**

	<b>Intervention Logic</b>	<b>Objectively Verifiable Indicators</b>	<b>Sources of Verification</b>	<b>Assumptions</b>
<b>Specific Objective</b>	4. Improved health conditions, in particular among the neighbouring villages subject to constraints from the Reserve	Mortality rate for children under 5 years reduced by 20% in at least 15 local villages (measured at the level of the population and not at health centres) by end of programme	Reports from the National Directorate of Health	The compensation offered by the programme is not viewed as a reward or encouragement to harm the Reserve
<b>Expected Results</b>	4.1. Improved medical and para-medical health care	Post-treatment recovery rate in beneficiary villages increased by: 15% by year 3, 60% by year 6, and 90% by end of programme. Satisfaction rating by patients: Increased by 40% by year 3, Increased by 80% by year 6, and Attains a level of at least 80% by end of programme	Health studies of target villages Results of satisfaction surveys	The services offered are not overwhelmed by increasing demand due to mining activities Local incomes increase (an effect of components 2+3) The needed personnel is provided by the Directorate of Health
	4.2. Increased access to health care	No inhabitant further than a 2-hour walk from a functioning health centre (3 <sup>rd</sup> phase) The cost of basic services decreased by: 20% by year 6. Percent of health centres offering traditional treatments: Increased by 60% by year 6 and Attains a level of 90% by end of programme	Studies on the provision of local health services	
	4.3. Increased access to potable water	Percentage of persons living less than 100 metres from a safe water source: Increased by 40% by year 6 Attains a level of 75% by end of programme Average water pollution levels decreased by 50% by year 6 and 80% by end of programme	Studies on local water supply  Reports on water quality from the activity 4.3.1	Mine-related pollution is controlled Services offered are not overwhelmed by increasing demand due to mining activities

	4.4. Improved hygiene practises	Occurrence of illnesses directly related to poor hygiene (diarrhoea, tetanus, meningitis) decreased by 20% by year 6 and 40% by end of programme Absence of cholera by end of programme	Local health studies	Pressures of urbanisation and spontaneous appearance of settlements are not increased dramatically by mining activities
<b>Activities</b>	411. Support organising focused training for medical and para-medical staff			
	412. Facilitate on-going access to basic medicines			
	421. Contribute to the geographic coverage of health dispensaries and clinics			
	422. Promote better complementarity between “modern” and traditional medicines			
	431. Monitor water quality in light of changes to the environment			
	432. Identify sources and causes of pollution and execute the needed corrective measures			
	433. Contribute to the existing network of wells, pumps and water supply systems			
	441. Support initiatives targeting public health and waste treatment			
	442. Support education in schools and public awareness initiatives on matters of hygiene			

**Logical Framework Component 5: Strengthened capacity of the Reserve's management structures, in particular of CEGEN**

	<b>Intervention Logic</b>	<b>Objectively Verifiable Indicators</b>	<b>Sources of Verification</b>	<b>Assumptions</b>
<b>Specific Objective</b>	5. Strengthened capacity of the Reserve's management structures, mainstreaming of biodiversity conservation, and contribution to national protected area system	Programme is managed effectively by CEGEN; Specific objectives 1-4 are realised according to plan (measured continuously) All agencies are working coherently together and synergies are realised between interventions in the Upper Cavally Basin; no activity is undertaken that works against the objectives of the NMBR (by end of programme) National coordination system for parks established by end of programme	Programme evaluation reports	Consistency of personnel (CEGEN) who are willing to relocate to the Nimba region
<b>Expected Results</b>	5.1. Synergy ensured between institutions and between interventions	Development master-plan (or other planning documents) approved (before year 6) CEGEN is effectively consulted on all programmes in the NMBR (beginning in the 3 <sup>rd</sup> year)	Master-plan (document) Minutes of cross-institutional meetings	The means and willingness of key partner institutions is sufficient. All partners accept and respect the role of CEGEN.
	5.2. CEGEN's human and material resources strengthened and well managed	Infrastructure installed, CEGEN's staff is in place at Nimba, CEGEN's documentation centre is equipped & stocked by year 3 Detailed training programme prepared and implemented by year 3 100% of higher and middle level CEGEN staff have received at least 2 months of training by midterm External technical assistance needs decreased by 90% (end of	Physical presence  Plan (document)  Activity reports   Activity reports	CEGEN's organigram is updated and staffed Trained personnel is in place and has adequate working conditions

		programme)		
	5.3. An operational ecological monitoring system	Baseline data at $t=0$ for the principal bio-indicators are established (1 <sup>st</sup> phase) Data on trends for the principal bio-indicators are available for every year of the programme (2 <sup>nd</sup> and 3 <sup>rd</sup> phases)	Reports from the monitoring system	Maintenance of installations and availability of trained personnel permit satisfactory mastering of the system
	5.4. Guaranteed long-term funding for conservation	Donor commitment to finance long-term management of the NMBR by midterm Sustainable financing mechanism in place by end of programme Locally distributed ecotourism revenues of US\$ 5000 per year by year 6, and US\$ 10,000 per year by end of programme	Written commitments from donors  Articles of the mechanism  Activity reports	Mining activities begin before or at the end of the programme
	5.5. Stakeholders better informed and aware of the issues and of resource conservation	Favourable attitude towards and objectives understood for the NMBR by at least: 25% of the populations older than 10 years by year 3 60% of the population older than 10 years by year 6 90% of the population older than 10 by end of programme	Surveys of the population of the NMBR	
	5.6 Contribution to a national protected area system	National coordination system for parks established by end of programme		
<b>Activities</b>	511. Amend and complete the legal texts related to CEGEN			
	512. Establish and run a consultation and planning mechanism with local populations			
	513. Ensure complementarity between relevant institutions			
	514. Prepare a development master-plan for the Nimba Mountains Biosphere Reserve in collaboration with all stakeholders			
	521. Implement a staff training programme			
	522. Establish a monitoring and evaluation system for CEGEN			
	531. Establish and manage a geo-referenced database on land-use, botanical and faunal inventories and the overall ecosystem			
	532. Ensure data collection necessary for the ecological monitoring system			
	541. Establish a sustainable financing mechanism and Foundation (or analogue agency) for the Guinean Nimba Mountains			
	542. Prepare a fundraising strategy for the Foundation (or analogue agency)			

	543. Explore alternative income -generating activities (especially eco-tourism, etc.)
	551. Design relevant messages for stakeholders and prepare materials to distribute
	552. Identify appropriate communication channels
	553. Organise environmental awareness meetings
	561. Contribute to establishment of a national coordinating committee for Parks
	562. Evaluate CEGEN performance and consider expanding mandate to Simandou Mountain, with accompanying revision in legal texts
	563. Contribute to review of policy and regulatory frameworks at national level for Protected Areas management

### **Annex 3: Incremental Cost Calculation**

#### **Context and Development Objectives.**

The overall goal of the GEF alternative is “to contribute to the conservation of biodiversity and world heritage in a manner compatible with sustainable development.” Specifically, it will intervene so that the core areas and the Nimba Mountains Biosphere Reserve are protected in a manner consistent with local sustainable development needs.

In its National Development Plan (2001), the Guinean Government places “the fight against poverty” at the center of all development activities. This plan touches several sectors, including agriculture, animal husbandry, health, education, basic infrastructure and others.

In 1998, the Guinea’s debt represented 102% of GNP and its debt-servicing ratio was 19.5% of exports of goods and services (UNDP, 2000). A large portion of the country’s budgetary resources and foreign exchange thus goes directly to servicing the debt. This situation does not make financing the poverty reduction strategy, prepared with World Bank support, easy (Republic of Guinea, 2000). Because constraints linked to debt payments and poverty increase pressures on natural resources, this debt has a major impact on the biological diversity of the Upper Cavally Basin.

*Agriculture.* The agricultural sector was responsible for 14% of Guinea’s 1998 gross domestic product (GDP) and 69% of primary sector production (IMF, 2000). But in the Upper Cavally Basin, in the absence of any mining activity, it is by far the largest contributor to GDP. Rice exports are significant, as are exports of bananas, plantains, roots & tubers, palm oil, kola nuts, vegetable, groundnuts, maize and other less important crops.

The Agricultural Development Policy Letter (1997) sets out the following principal objectives, among others: “food security through animal and crop production” and “rational and sustainable use of natural resources (soils, forests, water), as well as biodiversity.” It pays particular attention to rice which should be the staple of national food security. Low yields from slash-and-burn upland rice cultivation and the tendency to reduce fallow periods are emphasised as the causes of food insecurity. Great importance is attached to preparation of low-lying areas (riparian zones, swamps) for irrigated rice cultivation, to improved techniques for upland (non-irrigated) rice cultivation, and to diversification of agricultural production.

*Animal husbandry.* Livestock rearing accounted in 1998 for just over 3% of GDP and 16% of primary sector production (ibid.). Animal protein is noticeably deficient among the inhabitants of the Upper Cavally Basin, which is due to increasingly scarce wildlife, to the low level of consumption of locally raised animals, and to the inability of local villagers to afford products imported from outside the region. Beyond supporting actions in support of traditional cattle-raising and pig-farming, the Animal Husbandry Development Strategy for the Year 2010, cited in the Livestock Development Policy Letter, aims to promote raising cane rats, frogs, snails and fish.

*Health.* The health situation remains one of the region’s chronic problems, due to the lack of health care supply (too expensive for the majority of Guineans if it were available), a loss of confidence in traditional medicine (a consequence of “modernisation” and the loss of natural ecosystems with their medicinal plants) and hygiene practices that are poorly adjusted to the zone’s current demography and land-use. In addition to the deplorable health and hygiene conditions in the Upper Cavally Basin, average annual population growth was above 4% in the 1990s in the Lola Prefecture. Addressing food security, health and hygiene, as well as other key social services like education, in the face of such population growth is extremely difficult. Several national development strategies and plans address health, both sector-specific ones and the National Development Plan which highlights health as critical.

*Mining.* Mining accounts for 16% of Guinea's 1998 GNP, 25% of Government revenues and 73% of total exports of goods and services (ibid.). In terms of revenue-generation and exports, it will probably remain the most important sector for several decades. Guinea is determined to establish active mines in the Nimba and Simandou Mountains, which represent two of the largest and highest quality iron ore deposits in the world, and without rival in Eurasia/Africa. In addition, Guinea has valuable bauxite, diamond, gold and other mineral deposits that the government is determined to continue exploiting.

*Conservation policy.* The Guinean Government has set aside 11,821 km<sup>2</sup> of classified forests covering 4.8% of the national territory. These have the double-objectives of, first, providing forest products such as timber and second, of protecting biological diversity and providing ecosystem services such as watershed protection and maintenance of regular stream-flow.

Apart from sacred groves protected by local communities (whose total surface area is difficult to estimate), Guinea has only 1,094 km<sup>2</sup> of strictly protected areas, covering less than 0.5% of the national land mass. This area is composed of two national parks and the Nimba Mountains World Heritage Site. Guinea has two biosphere reserves (the Nimba Mountains and Zياما Massif), covering 2,575 km<sup>2</sup> or 1% of the national territory.

The National Biodiversity Strategy (2001) sets out the objective, among others, of "creating and developing a network of protected areas representative of the biodiversity of the terrestrial and aquatic ecosystems" of the nation. Mobilising international cooperation and assistance is one of its four primary objectives for the strategy, which will allow biodiversity to be conserved and used sustainably.

The Wildlife and Hunting Act sets out the framework for wildlife utilisation and the protection of species threatened with extinction. Thus hunting of certain species is strictly forbidden while for others it is limited to certain seasons and methods, with the objective of the latter's sustainable use.

*Forestry policy.* Managing forestry is the responsibility of the Directorate of Water & Forests, which is part of the Ministry of Agriculture. A forestry company wishing to obtain a logging concession works with the local Water & Forest agents to identify an area and prepare the technical specifications (*cahier des charges*) the concessionaire must follow in carrying out any logging. This generally includes preparing an inventory and annual coupe plans, reforesting after logging or reforesting degraded areas, as well as constructing and maintaining infrastructure (roads and bridges) and possibly assisting local communities with schools, clinics and other support. The *cahier des charges* specifies the minimum diameters for particular species that may be cut, as well as the responsibilities if any of the logger to protect the area from encroachment during and following logging. All *cahiers des charges* must be consistent with the Forestry Act which specifies general responsibilities, rules and regulations concerning commercial forestry. Once a proposed forestry concession is agreed between the concessionaire and Water & Forests agents, the request is channeled up to the Minister of Agriculture for approval. A concessionaire is supposed to operate according to the *cahier des charges* and under the supervision of a locally assigned Water & Forests agent.

Guinea has a Tropical Forestry Action Plan which was under implementation in Forested Guinea or "*Guinée Forestière*" at the time of writing. However its impact in the province has not been felt significantly.

Despite the emergence of commercial forestry as a powerful force in the regional economy in the 1980s, historically forest loss and degradation in *Guinée Forestière* and the Nimba region is due largely to subsistence agriculture, followed by livestock raising and settlements. Commercial forestry is not directly responsible for much forest loss. However over the past decade it is responsible for opening up many of the last remaining forest blocks to slash-and-burn agriculture and hunting, fragmenting, degrading and reducing their ability to recover from disturbance. In 2002, the forestry industry in *Guinée Forestière* has suffered the set-backs of a presidential decree banning all commercial tree-cutting in the province, and the closure of the

borders with Liberia and Côte d'Ivoire. However small scale logging continues, although illicitly, with the complicity of some local authorities.

**Baseline situation.**

*Development.* The Baseline situation is supporting sustainable development in line with the above official policies. However the aid currently received in the NMBR is sporadic insufficient to address the problems of over-exploitation of natural resources and biological diversity, which is impoverishing both the Reserve's biodiversity and people. IFAD assists one village in the transition area with agricultural and other support via the Project for the Development of Small-scale Forest Inhabitants in Forested Guinea (PDSFI/FG) and the French Development Agency's Animal Husbandry Support Programme (AHSP) is providing small-scale support. The FAO is providing support to pisciculture in the region although its impact has not been felt in the buffer zone. In 2002 the Japanese funded a study of potential sites for irrigated rice cultivation around Bossou.

Without any new interventions, the NMBR would continue to receive irregular support from national, regional and prefectural programmes. It would also benefit from programmes described above and in Section 9 "Past activities and present baseline activities" such as the PDSFI/FG and the AHSP. Furthermore in addition to falling far short of local needs, current support is not co-ordinated in any manner with efforts to manage the core areas' biodiversity.

*Mining.* The proposed mine in the north-western part of the Nimba mountain range would eventually be used according to the guidelines agreed between Government and EuroNimba, in the Convention currently pending signature, and according to any additional guidelines and standards that EuroNimba will follow as a matter of corporate policy and good citizenship. MMGE will monitor that EuroNimba upholds its commitments.

*Conservation measures.* CEGEN's presence in the field remains very weak. Apart from meteorological monitoring that has been underway since the Nimba Mountains Pilot Project, whatever infrastructure was installed and has undergone disrepair, is hardly utilised and there is no regular patrolling. CEGEN's skeleton staff live in Conakry awaiting the construction of appropriate infrastructure and the provision of necessary equipment in the Reserve so that they may carry out their responsibilities.

The Guinean Government provides approximately \$25,000 per year in salaries for CEGEN, plus another \$1000 per year in recurrent costs for CEGEN's office in Conakry. It should be noted that the PDF B has permitted CEGEN to strengthen its presence in the field and numerous activities from the Pilot Project have been restarted since early 2001.

As part of its environmental responsibilities, the mining company will monitor certain parameters related to water and air quality in the mining concession. It will furthermore see that all environmental clauses are respected in the mining agreement to be signed between all parties, especially EuroNimba and Government (see Annex 11). As stated above, an additional obligation will be an annual contribution to the management of the core areas and to development in the surrounding communities.

Various international partners are already contributing to certain core areas. Specifically, the University of Kyoto and the Japanese Embassy in Conakry contributed just shy of \$45,000 in 2000 for the Bossou-Nimba forested corridor, as well as a community health center. The University has supported on-going chimpanzee research worth a portion of that per year since the mid-90s via the Environmental Research Institute of Bossou. The University will continue its research programme over the long term, contributing to the management of the Bossou Hills. UNESCO has over the past several years made contributions to the Nimba Mountains and the Déré Forest but these are too irregular to constitute any sort of baseline, and they have been more diagnostic than management-oriented.

The tri-national meetings on transboundary collaboration for the Nimba Mountains that occurred in late 2001 and early 2002 were supported by grants from the World Heritage Fund, Rio Tinto Mining and Netherlands Committee for IUCN totaling \$42,000, and in-kind contributions of \$27,000 from the three international NGOs who organised them (Fauna & Flora International, Conservation International and BirdLife International) and participating governments. With the initial contacts established and identification of areas of collaboration completed, smaller focused meetings will be needed in future to ensure continuation of the momentum created. FFI will seek to ensure the Guinean participation in this, which will cost approximately \$10,000 per annum for the duration of the programme. Although the three countries expressed their strong desire for the process to undertake field activities, no funding has been secured for these. However FFI intends to continue funding tri-national dialogue at a modest level.

*Forestry.* In the 1990s, the GTZ, KfW and Directorate of Water & Forests launched the Rural Resources Management Project and established the N'Zérékoré Forestry Centre. This support has helped to strengthen management of the Diécké, Ziama and Mont Béro Classified Forests of *Guinée Forestière*. In 2003 parts of the programme will be extended to three additional classified forests, but not in the Nimba Mountains Biosphere Reserve.

The forestry baseline in the NMBR consists of ensuring that the presidential decree is effectively enforced and that loggers do not escape through loopholes, with local collusion. Logging by commercial foresters is not a problem for the Nimba Mountains or the Bossou Hills, but has been highly damaging to the Déré Forest, and parts of the Buffer Zone and Transition Area. As the Directorate of Water & Forests is CEGEN's main partner for managing the Déré Forest and forests outside the core areas, responsibility falls to it to ensure the baseline is met, with CEGEN's oversight through the planning committees and preparation of the Reserve's development master-plan.

*In conclusion,* in spite of certain actions in support of conservation, the current situation will lead sooner or later to the loss of the majority of the biodiversity of the Nimba Mountains Biosphere Reserve, regardless of the probable but distant proposed contributions of the mining company. Such a loss will be due principally to forest loss and encroachment on the edges of the core areas due to agricultural and forestry pressures (subsistence and commercial), to hunting and to wildfires. The loss of biodiversity will be accompanied by ever-increasing poverty of local peoples, characterised by declining agricultural production, low levels of animal production, and worsening health and sanitary conditions. This is because the baseline, which is outlined according to Guinea's official development policies, is unlikely to materialise in the absence of a programme like the proposed GEF intervention, and the eventual contributions of the mining company will not be sufficient to address magnitude of the problems, even if mining is done responsibly. The only solution for biodiversity and improving local living conditions over the long term is to invest in a participatory and integrated conservation programme for all three categories of the Biosphere Reserve: core areas, buffer zone and transition area.

### **Global Environmental Objective.**

The proposed programme's global environmental objective is the conservation of the globally significant biodiversity of the Biosphere Reserve's core areas and the sustainable use of biodiversity in its buffer zone and transition area. These ecosystems represent a unique continuum of the Upper Guinean Forest Ecosystem including lowland rainforest and savanna, mid-altitude rainforest on the slopes of the Nimba Mountains, gallery forests in the deep ravines snaking up to high altitudes, high-altitude forests and finally high-altitude savanna formations generally above 1400 meters. This range of habitats is unique in West Africa. It contains numerous endemic species, in particular at the upper altitudes. This combination of factors is the reason the area was identified as one of the highest priority sites for conservation in West Africa by the Upper Guinean Forest Ecosystem Conservation Priority-Setting Exercise (1999). Because of the pressing

threats on the ecosystem, informally many considered it the single highest conservation priority in humid West Africa.

As a Biosphere Reserve, the Guinean Nimba mountains have the potential to be a showcase for a holistic landscape approach to ecosystem management and sustainable development, proving that local development needs and national-level mining interests can be reconciled with biodiversity conservation imperatives.

**GEF Alternative.**

GEF funding over a 9-year period will permit the institutions responsible for environmental conservation and local development at the Nimba Mountains to be strengthened, and for integrated conservation and sustainable development activities to be launched and consolidated. Once consolidated, the recurrent costs and other needed inputs will be significantly lower and should be met without further GEF support. To do all this, the proposed programme will overcome the relevant institutional, inter-institutional, scientific, field-orientated, financial, legal and development-related barriers. GEF support will not only realise global environmental benefits, but has catalysed additional direct co-financing that would otherwise not likely be forthcoming.

*Institutional barriers:* Since its creation in 1995, CEGEN has had inadequate personnel, training and equipment to carry out its responsibilities. Furthermore, due to the lack of infrastructure in NMBR, the existing personnel have been concentrated in Conakry, thus not being able to provide adequate presence in the field. As the statutory agency responsible for the core areas of the Biosphere Reserve and also for ensuring coherence and complementarity between interventions in the Reserve, the bulk of CEGEN's staff will be moved to the Reserve and appropriate local infrastructure will be constructed. The programme will provide the means and incentives for CEGEN personnel to be trained in their job responsibilities, and to pursue individual study. It will set up an internal management and evaluation system for CEGEN to constantly improve its operational efficiency and for individual achievement and dynamism to be rewarded. The Guinean Government will revise the legal statutes governing CEGEN and assign or hire the specified personnel so that before the end of the programme CEGEN has all the required personnel, fully trained to carry out all aspects of its mandate, and whose costs are borne by regular budgetary allocations. The programme will permit CEGEN and its partner agencies to be recognised locally as the legitimate, competent and approachable management authorities for these protected areas.

*Inter-institutional barriers:* The programme will permit CEGEN to lead preparation of a development master-plan for the Reserve with all concerned stakeholders, and to co-ordinate planning and consultation mechanisms at several levels - with local communities, local authorities, sectoral agencies and development initiatives – in order to ensure transparent and comprehensive information-sharing, and mainstreaming of biodiversity into development planning for the zone between all concerned parties. In this way synergies between interventions, which until today have been seriously lacking, will be realised.

The programme will also permit, as and when the situation improves across the border, the Guinean team not only to continue the transboundary dialogue begun in 2001 on co-ordinated management of the Nimba Mountains' environment, but to carry out harmonised and possibly joint field activities with its neighbours as part of the management plans for the World Heritage Site and Déré Forest. The transboundary goal towards which the programme will work is to bring all three countries' conservation management and economic development programmes into harmony for the full Upper Cavally Basin and Nimba Mountain chain.

*Scientific and field-related barriers:* Although management of the core areas has been irregular over the past decade, activities to date and those planned are based upon scientific assumptions that are unconfirmed and need testing. For example, while fire is considered a threat in some cases and a necessary ecosystem component at times, its role is poorly understood at Nimba. Thus management of the core areas' biodiversity as well as biodiversity in the buffer zone and transition area will be informed by an ecological data collection

and analysis system designed to track key biodiversity parameters indicating overall programme success or failure. This same overall system will monitor key pollution parameters like water and air quality, related to mining operations and local sanitary conditions. In this way the barrier of missing biophysical data and scientific information will be overcome.

*Financial barriers:* Since its creation, CEGEN has lacked the financial resources to fulfil its mission. This programme will mobilise the funds to put in place the tangible and intangible elements, overcoming the various barriers, for CEGEN to function efficiently and effectively after the programme ends and with relatively modest recurrent costs. However without a sure source of recurrent funds later on, this programme will have helped mainly to defer or diminish the inevitable loss of the biodiversity of the Reserve.

Therefore the programme will establish a sustainable financing mechanism to address this issue. However every effort will be made to avoid creating mechanisms that duplicate one another, targeting the same topic(s) and/or working in the same geographical area(s). For example, the programme will ensure complementarity rather than duplication of the mechanism created by PCGAP in Côte d'Ivoire assisting the Ivoirian Nimba Strict Nature Reserve among other sites.

Concerning the Guinean side, the mining company has committed to contribute a sum annually to conservation and local development for at least a 50 year period. The possibility of establishing an endowment fund with this contribution, to cover certain recurrent costs of protected area management as well as contribute to sustainable development, has been discussed and will be further refined during the Full programme. The idea of establishing an efficient, independent and non-governmental interlocutor to receive and programme the resources has in principle been accepted by Government.

Whatever the solution chosen above, the programme will make the investments to create positive conservation momentum that can be sustained with recurrent funding after the programme closes, such as from contributions of the mining company and Government.

To support outreach and sustainable development activities for surrounding communities, the programme will develop income-generating activities based upon tourism in the core areas, as well as sustainable use in transition areas. Although tourism revenues are likely to be limited initially, they will be shared with local communities according to transparent criteria to be established during the programme. Because of the high degree of community involvement foreseen in core area protection, particularly of the Bossou Hills, revenue-sharing will be an essential part of tourism and core area management.

*Legal barriers:* The programme will resolve once and for all the legal ambiguities concerning the legal status under Guinean law of the three core areas and the management and inter-institutional responsibilities for all zones of the Biosphere Reserve.

*Sustainable development:* Improving local production systems, in particular agriculture and animal protein production, is essential to ensure the ecological integrity of the Reserve's core areas. Coherence between interventions and their integration with conservation measures are equally fundamental to realise the programme's objective of integrated ecosystem management.

A small percentage of GEF resources are destined for sustainable development activities, and this percentage targets technical assistance directly linked to sustainable use of biodiversity *in situ* as well as to ensuring coherence and complementarity between conservation and development activities. The overall programme will furthermore provide alternative sustainable development models to the currently destructive ones so that local inhabitants are not left worse off but their livelihoods improve as protective measures of the core areas increase and biodiversity use in the productive landscape (such as wildlife gathered for food like frogs, snails, cane rats and fish) is made sustainable.

The programme's PDF B phase has come to the attention of many high-level decision-makers in the Guinean Government as well as donors, who are encouraged to direct their programmes and resources to the Upper Cavally basin in future. A Parliamentary Question in February 2003 directly instructed the Minister of MMGE to proceed as soon as possible to the signature of the Convention. While this support forms part of the wider baseline in Guinea, this programme will attract additional resources to the Nimba region specifically to support the double objectives of conservation and sustainable development.

### **Incremental Cost Calculation.**

Activities that address overcoming the barriers to integrated long-term management of the NMBR and its biodiversity are considered incremental. The following programme elements are thus eligible for GEF support:

- ?? activities related to interventions directly in support of conservation of the core areas that were not pursued regularly in the past. These consist of the majority of the component 'Ecological integrity assured for the core areas of the NMBR', namely basic infrastructure for the core areas, patrols, local involvement, ecological monitoring and identification of conservation priorities, preparation of management plans for the three core areas, collaborative field activities with Liberia and Côte d'Ivoire, and more. Activities directly related to planned mining operations however are not considered incremental.
- ?? strengthening of CEGEN's capacity. This consists of installation of basic infrastructure and provision of basic equipment to permit CEGEN to function at the Reserve, a training programme for CEGEN personnel, setting up an internal monitoring and evaluation system of CEGEN's staff and performance, and provision of technical assistance to ensure that adequate systems exist to maintain programme accomplishments and continue managing the Reserve after the programme ends.
- ?? Support to activities related to setting up and/or running fora for consultations, information-sharing and planning between stakeholders (CEGEN, villages, decentralised governmental sectoral services, local and national authorities, the mining company, development agencies and programmes, research and documentation centers, commercial operators, etc.), and for developing Core Area Management Plans, as well as the Reserve's integrated development master-plan.
- ?? ensuring a sustainable financing mechanism to support activities after the programme ends and programme the resources available.
- ?? a modest but strategic support to the agricultural component, focusing on understanding the the land-tenure related processes that may drive forest clearance in the core areas
- ?? aspects of the Animal Protein and Health components directly related to sustainable utilisation of biodiversity in the productive landscape, namely establishing sustainable off-take regimes for selected wild species, promoting the raising of wild species to relieve pressures on wild populations, sustainable use of non-timber forest products, and actions related to promoting complementarity of traditional with 'modern' medicine and sustainable management of locally collected medicinal plants.

*System boundaries.* The programme primarily targets the Guinean Upper Cavally Basin and its management authorities. The philosophy of a biosphere reserve focuses firstly on conservation of the core area(s) and compatible sustainable development of buffer zone. The buffer zone will serve as the priority area for testing development solutions and where development activities will be strictly controlled, while successful activities from the buffer zone will be replicated in the transition area. The programme will largely stop at the international borders, although it will support Guinea's participation in the recently established transboundary planning and co-ordination mechanism, with the intention of managing the Nimba Mountains as a single ecosystem. The system boundary is also extended to the national level, as the programme will contribute to strengthening the MMGE in developing a national protected area system. The GEF Alternative will address the main threats as identified (agricultural expansion, unsustainable harvesting) but will not address the issue of commercial logging directly. It will do so indirectly through strengthening the capacity

of local government to plan, manage and control illicit logging, and improve its integration with other economic activities.

*Incremental costs.* The baseline cost is estimated at \$5,640,000 over the nine years of the programme. The GEF Alternative is estimated at \$17,076,900 over the same period. The increment will be shared by GEF (\$3,660,000) and other co-financing (\$7,776,900). See matrix that follows.



**Incremental Cost Matrix.**

<b>Component</b>	<b>Cost (US\$ thousand)</b>	<b>Intervention summary</b>	<b>Local benefits</b>	<b>Global benefits</b>
<b>1. Ecological integrity assured for the core areas of the Nimba Mountains Biosphere Reserve</b>	<b>Baseline</b>	Monitoring of the mining project; preparation of environmental guidelines for mining operations; dialogue with neighbouring countries; modest support to CEGEN from GoG, UNESCO, FFI, Japan, and Mining Consortium	Reduction of the impact of mining on the Nimba Mountains World Heritage Site	Probable loss of a significant part of the biodiversity of the Reserve's 3 core areas
	<b>Alternative</b>	In addition to the above, active protection of the core areas of the NMBR through planned and strategic patrolling, community participation, management-oriented monitoring and studies, management plan development and legal measures	Long-term protection of watersheds and genetic stock for replenishing sites outside the core areas	Protection of rare or unique habitats and species, especially at higher altitudes
	<b>Increment</b> <b>GEF 2,160</b> <b>Other 2,134</b>			
<b>2. Agricultural revenues of local people increased on the basis of more productive practises</b>	<b>Baseline</b>	Support to more intensive and productive agricultural practices to stabilise the land surface cultivated; support to improving the terms of trade and negotiating power of local farmers; diversification of local employment (IFAD, AFD, FAO)	Incomes & agricultural production improved and diversified employment on the basis of less land-extensive techniques but not necessarily in the Reserve	Continued encroachment on the core areas of the NMBR
	<b>Alternative</b>	In addition to the above, a better understanding of the social, viz. land-tenure-related, constraints that drive local inhabitants to encroach on the core areas	More effective intervention because of better local knowledge; improved water flow for irrigated agriculture; actions targeted at the Upper Cavally Basin	Agricultural interventions better targeted to counter threats to the core areas
	<b>Increment</b> <b>GEF 20</b> <b>Other 2,020</b>			



<p><b>5. Strengthened capacity of the Reserve's management structures, mainstreaming of biodiversity conservation, and contribution to national protected area system</b></p>	<p><b>Baseline</b></p> <p style="text-align: right;"><b>850</b></p>	<p>Limited monitoring of certain biophysical parameters (meteorology, hydrology, water quality); insufficient infrastructure and staff in the Reserve for it to be managed properly; poor if non-existent inter-sectoral planning of interventions in the NMBR No coherent national level dialogue on protected area system</p>	<p>CEGEN stays weak in terms of its presence at the Reserve, technical &amp; institutional capacity and knowledge of important management issues for the Reserve; lack of synergies between interventions -even interventions that conflict and damage one another; lack of awareness and acceptance of CEGEN's co-ordinating role; chronic lack of funds</p>	<p>Degradation of the ecological integrity of the core areas' biodiversity</p>
	<p><b>Alternative</b></p> <p style="text-align: right;"><b>3,198</b></p>	<p>CEGEN's capacity strengthened in terms of infrastructure, equipment, trained personnel, internal management system, clear and accepted roles; regular consultations and planning with relevant stakeholders including local residents; interventions are planned according to a development master-plan; a comprehensive ecological monitoring programme in place looking at the entire Reserve; creation of a sustainable financing mechanism and associated institutional arrangements; eco-tourism promoted; awareness programme launched; and inputs provided for a national system of protected areas</p>	<p>Synergies realised between interventions; all stakeholders understand one another's roles and responsibilities at the Reserve</p>	<p>CEGEN its partners are strengthened in terms of material needs, legal mandate, human resources and inter-institutional co-ordination to manage the Reserve and it biodiversity</p>
	<p><b>Increment</b> <b>GEF 740</b> <b>Other 1,608</b></p>			

<b>TOTAL</b>	<b>Baseline</b> <b>5,640</b>			
<b>TOTAL</b>	<b>Alternative</b> <b>17,076.9</b>			
<b>TOTAL</b>	<b>Increment</b> <b><u>GEF 3,660</u></b> <b><u>Other</u></b> <b><u>7,776.9</u></b>			

## Annex 4 : STAP Review and Response to STAP Review

### ANNEX 4A. STAP TECHNICAL REVIEW

By John Mugabe  
28<sup>th</sup> February 2003

<b>Project Number</b>	PIMS 1584
<b>Project Title:</b>	Conservation of the biodiversity of the Nimba Mountains through Integrated and Participatory Management
<b>Implementing Agency:</b>	United Nations Development Programme (UNDP)
<b>Requesting Country:</b>	Guinea
<b>GEF Focal Area:</b>	Biological Diversity

#### General Statements and Comments

I have read and reviewed the proposed project with great interest. The project is intended to address a wide range of conservation and developmental issues, some of which are complex due to their social and political underpinnings. The proposal provides a rich body of information on the status of biological diversity in the Nimba Mountains region, and outlines a range of activities that would be implemented to achieve specific conservation and development goals. On the whole, it is well designed. There are a few general concerns that emerge from reading the proposal. These are:

- (a) Lack of clarity in usage of terms and concepts—such phrases as ‘integrated ecosystem management through participatory approaches’, are used severally in a vague way. While it is not the task of the proposal to provide definitions of such concepts as ‘integrated ecosystem management’ and ‘participatory approaches’, ‘mainstreaming of biodiversity conservation into local and national level sustainable development planning’, it is crucial that in the description of the project’s activities effort is made to at least indicate how they are or will be achieved.
- (b) Terms/words ‘project’ and ‘programme’ are used interchangeably. See for example on page 15 paragraph 60 “The project will have to....” and paragraph 61 “The overall objective of the programme is....”
- (c) While in the project summary and description of components there is explicit reference to the development dimensions of the project, the outline of objectives (para 61) is silent on social and economic development goals.
- (d) Usage of such phrases as ‘the protection of the biological diversity of the Nimba Mountains Biosphere Reserve’ tends to create the impression that this is one of the

traditional/conventional conservation projects that ignore economic and social facets of sustainable development.

## **Key Issues Considered**

**1. Scientific and technical soundness of the proposed project:** The proposal gives a good overview of the environmental context and status of biological diversity of the Guinea, and particularly the diversity of species found in the Nimba Mountains Biosphere Reserve (NMBR). It clearly demonstrates that this diversity is threatened by a variety of factors including the lack of national institutional capacity for conservation. The proposed project is being designed to promote the conservation of biological diversity while at the same time addressing economic needs of local peoples and interests of the mining industry. Indeed this one of the main challenges of biodiversity management: balancing conservation with economic development imperatives. While the proposal states that animal husbandry and crop production activities will be encouraged and strengthened, it does not really discuss how local communities and the national economy shall directly benefit from their rich biodiversity through *sustainable use practices*. Instead of ‘protecting’ and/or ‘preserving’ the biodiversity—the conventional paradigm—what specific initiatives is the proposed project likely to institute to promote sustainable harvesting and use practices, particularly of forest tree species?

The proposed project recognizes the importance of involving local people in conservation. However, it pays very little attention to the importance of promoting and protecting their traditional knowledge. There is no discussion in the proposal on how such knowledge will be harnessed, utilized and recognized. Paragraph 74 of the proposal makes reference to article 8 of the Convention on Biological Diversity but there is no discussion of how the project will contribute to the implementation of provisions of Article 8j. A related issue is how local people can be effectively engaged in building an information base on the social and economic uses/values of NMBR biodiversity, for example their involvement in taxonomic studies.

On the whole, the proposed project is designed on sound scientific and technical principles. The above issues may be considered to upgrade its scientific and technical soundness.

**2. Global environmental benefits identified and/or drawbacks of the project:** There are at least two global environmental benefits that the proposed project would generate. These are maintenance of the ecological integrity of the NMBR which is a recognized global heritage and biological asset, and potential contributions to the stabilization of greenhouse gas concentrations in the atmosphere. It would provide sinks for greenhouse gases and thus contribute to the management of climate change. The proposal explicitly outlines conservation of a globally significant ecosystem as a benefit but does not refer to or explicitly recognize potential contributions to mitigation of climate change. Other potential benefits that the project would generate relate to controlling land degradation. It is intended to improve land use practices in the region.

**3. Project fit within the context GEF goals and operational strategies:** The proposed project aims at meeting GEF goals as is designed to promote the conservation and sustainable use of a

globally significant biosphere. Its objectives and activities are explicitly aimed at implementing the Convention on Biological Diversity, and in particular article 8 on *in situ* conservation. Potential benefits of improved land use and tenure systems are also anticipated, and it thus fits also in GEF operational strategies and focus on land degradation.

**4. Replicability of the project:** The proposed project can be replicated in other regions of the country as well as in other countries. It is designed in such a way as to ensure that it is implemented in a flexible manner, maximizing learning and adjusting the sequence of activities to achieve maximum impact. The 9 years of project implementation is an adequate time-span to ensure that various approaches are experimented with and revised on the basis of lessons learnt. An important aspect of experimentation will be how to engage in partnership with the mining industry in such a way as to balance its economic interests with overall conservation goals of the project. Lessons learnt from this form of partnership will be crucial in promoting collaboration between conservation agencies and private industry.

Significant attention is to be devoted to building and sustaining memory of the project's implementation by periodically reviewing and documenting it. There is recognition of a range of policy, institutional and legal reforms that must be undertaken in order to achieve the overall objectives of the project.

**5. Sustainability of the project:** The project is to be implemented in nine years, a reasonable period during which the activities will be tested out, the necessary institutional reforms undertaken to give the CEGEN a clear mandate, enhance its authority and human as well as physical capacity. One important aspect of the sustainability of the project relates to build a strong political constituency for its implementation. The extent to which it will last and be effectively implemented in the nine years depends on the existence of socio-political stability in the region as well as the support of national and local politicians. This is recognized in the project design.

Financial sustainability of the project post-GEF funding is to be secured through the creation of an endowment fund with contributions from the mining company. The proposal makes reference to but does not elaborate on the idea of an endowment fund or any other mechanism to ensure financial sustainability. The other source of financial sustainability envisaged is government funding. There is however no discussion of how the project will leverage and sustain government support beyond/after the nine years. There is also need for the proposal to identify and describe specific measures that will be put in place to ensure that the mining industry continues to invest in the activities post GEF funding.

### **Secondary Issues Considered**

**1. Linkages to other GEF focal areas**—The project has explicit links to land degradation, a focal area of the GEF. Its implementation may also contribute to achieving the objectives of the United Nations Framework Convention on Climate Change.

**2. Linkages to other programmes and action plans at regional and sub-regional levels**—The proposed project has linkages to several other projects and programmes at sub-regional and regional levels. For example, it has linkages to the proposed GEF-UNDP project on *Ín situ* conservation of endemic livestock in West Africa', and the World Bank supported Framework

Protected Areas Management Project in Cote d'Ivoire which also covers the protection of the Ivoirian Nimba Strict Reserve.

**3. Other beneficial effects**—In addition to the environmental and economic benefits, the proposed project will build new skills and social capital. The mobilization and involvement of various stakeholders in the project may generate new institutional arrangements between the mining industry and local communities, and may resolve any prior tensions and conflicts such as those over land and forest resources.

**4. Degree of stakeholders' involvement**—During the PDF-B phase major efforts were made to mobilize and engage various groups of stakeholders in the design of the project. There are specific measures being proposed to ensure that there is adequate stakeholders' participation in the implementation of the project. For example, local meetings are planned to disseminate information and various participatory forums where various government departments, private industry and local authorities will share views on the project's implementation will be organized.

**5. Capacity-building aspects**—This is the core focus and component of the project. There are three aspects of capacity building that the proposed project will focus on. These are (a) creating the necessary enabling conditions by reforming policies and laws such as those on land use, and building constituencies for biodiversity management through participatory approaches (b) provision of equipment to management agencies e.g. the CEGEN, and enlargement of CEGEN's legal authority (d) training and ensuring efficient utilization of staff.

**6. Innovativeness of the project**—The proposed project is innovative in a number of ways. First, it is aimed at creating incentives for private sector (specifically the mining industry) to participate in and contribute to national conservation efforts. It is intended to ensure that environmental and social considerations are integrated into mining activities. Emphasis is placed on voluntary compliance with environmental requirements, and ensuring that the mining industry has a direct economic stake in biodiversity conservation. Second, the project explicitly focuses on enlarging the range of economic opportunities for local people. Many conservation projects tend to either ignore or shy away from addressing economic needs of local people. The proposed project will harness and utilize local knowledge and skills to improve agricultural productivity while at the same time maximizing conservation of biodiversity.

## ANNEX 4B. RESPONSE TO STAP REVIEW

The STAP review is a very positive endorsement of the project Design, and commends its innovativeness, potential for achieving global benefits and sustainability /replicability. The Reviewer has made very constructive comments on how to improve the terminology, as well as substantive comments, which are addressed below:

1. Definition of terms “integrated ecosystem management”, “participatory management” and “mainstreaming”. The former will be achieved through the integration of the different landscapes in the Reserve (montane, savanna, valley) and the integration of conservation and development activities. The second will be achieved through participatory development and implementation of the management plans for the core areas, as well as the Master Plan. The third will be achieved through integration of biodiversity concerns into both the Master Plan as well as the Refugee Contingency plan.
2. The design is essentially a programme , because of its long period (9 years) and integration of different packages of financing. The term project has been replaced with programme throughout.
3. The Overall Objective (paragraph 61) captures the issues of socio-economic development under the term “sustainable development”. The term “protection” is used to include both conservation and sustainable use.
4. Sustainable use will contribute to sustainable development, and is fully captured in Component 3. This component focuses on fauna and not flora (trees) because the threats /root causes analysis has shown that local use of trees (fulewood) and non-timber forest products are not at such a high level as to constitute a threat. The threat to the forests comes from the illegal logging practices. The Presidential Decree has given a respite that will allow the programme to develop a viable system to address this issue. This is being addressed in several ways: participatory development of the management plans of the core areas, which will stipulate no-harvest zones; local patrolling to enforce the management plans; building capacity of CEGEN to monitor and enforce the plan (including incentive schemes for employees); and integrating sustainable logging needs into the Master Plan for the wider landscape (outside core areas).
5. The role of traditional knowledge is very important, and is already reflected in the participatory approach adopted by the project. Local knowledge will be utilized when developing a deeper understanding of conservation needs and the management plans for the Core Areas. Knowledge that is codified will be fed into the ecological monitoring data base. This knowledge will also be instrumental in shaping the management plans, and in developing sustainable use regimes for bushmeat and medicinal plants. This has been clarified in the revised Brief. However, no explicit taxonomic studies are envisaged at this time by the project. If additional funding is found for such an activity, then it will be done through integration of local knowledge.

6. There will be a potential for capturing global benefits from carbon sequestration, once the forest canopy is restored and stabilized. This will also contribute to reducing land degradation/deforestation. One of the indicators of the programme impact is reduced deforestation. Although, the programme does not intend to monitor carbon sequestered, the data it will generate on forest canopy can be used by GEF's and UNDP's M&E Units to calculate such global impact.
7. Leveraging and sustaining Government support beyond the nine years is an issue that requires careful consideration and safeguards. The government has committed itself to tripling the staff of CEGEN, using its own budget, in the life of the programme. It is understood that the recurrent costs of these will continue after the programme is ended. During the design of the Foundation, this issue will be considered so that mechanisms are found to ensure such government support beyond the life of the programme.
8. Similarly, the Mining Industry will commit itself , through the Convention, to providing support well beyond the life of the programme. The Convention covers the life of active exploration and mining, which goes well beyond the life of the programme.

## **Annexe 5: Stakeholder and Public Participation Plan**

As stated throughout this document, the threats to the NMBR and its biological resources are intimately linked to the livelihoods of local residents, and any lasting solution necessarily entails the genuine collaboration of local villages, economic groupings/collectives, local authorities and the decentralised sectoral services and development programmes operating in the zone. Problem identification and the definition of solutions during the PDF B preparatory phase were highly participatory, being based upon extensive local consultations, several information-sharing meetings and a several-day 'ZOPP' workshop in which the problem analysis was reviewed and validated by a range of local actors and the programme's components were defined in response.

The strategy to be followed during programme implementation will be based upon detailed and site-specific information collection for any community assistance/development action (components 2-4), including consultations with intended beneficiaries (not only heads of RDCs or collectives), to design specifically tailored assistance projects. Under component 5, the programme will establish and run forums for communities to communicate their needs, perspectives and concerns related to the overall Reserve (Activity 5.1.2). A similar forum, but pitched at an appropriately different level, will be created to bring together CEGEN with representatives of local communities, local authorities, decentralised sectoral services, development programmes active or interested in the zone, the mining company, UNESCO and MAB representatives and any other relevant stakeholder to co-ordinate interventions, realise synergies and provide input into the NMBR development master-plan (Activity 5.1.3). Furthermore, in component 1, local communities will be involved in developing management plans for the three core areas and in protecting them through village-based patrols.

The participatory processes established during the programme should be able to continue after external support ends because they do not so much require significant resources but they need to be set up, run and prove their value to local stakeholders. Once their value is evident and a culture of dialogue and joint planning is established, this culture of participation can be continued with little external support.

The following tables present, first, the main stakeholders identified and, second, the stakeholders that will be involved in each activity and which actions will be carried out in the pre-programme, programme and post-programme periods. A separate annex (no. 10) describes the details of the mining company's part and future involvement with the programme.

### **List of stakeholders**

- ?? the Guinean State
- ?? Ministry of Environment
- ?? Centre for the Management of the Environment of the Nimba Mountains (CEGEN)
- ?? Hired programme personnel
- ?? Sectoral agencies/services (ERIB, NDWF, NDSTR, NDE, NDA, NDL, NDH ...)
- ?? Decentralised sectoral services (local authorities)
- ?? Programme Steering Committee
- ?? Rural collectives (RDCs)
- ?? Local residents (farmers, pastoralists/animal breeders, hunters, traditional doctors ...)
- ?? Private sector (EuroNimba, Rio Tinto, Forestry companies, Traders ...)
- ?? Development partners ( USAID, GTZ, AFD/FGEF, JICA, IFAD ...)
- ?? International organisations (UNDP, GEF, UNESCO, World Bank, FAO ...)
- ?? National and local NGOs (UVIDOZ, GSSIDSAH ...)

?? International NGOs ( FFI, Birdlife International, Conservation International ...)

Component	Participants	P E R I O D		
		Pre - programme	Programme	Post - Programme
<b>1: Ecological integrity assured for the core areas of the Nimba Mountains Biosphere Reserve</b>	<ul style="list-style-type: none"> <li>- Guinean state ( Ministry of Environment)</li> <li>- CEGEN (lawyers and researchers)</li> <li>- Decentralised sectoral services</li> <li>- Technical institutions</li> <li>- Development partners</li> <li>- Local populations/RDC</li> <li>- Private sector</li> <li>- NGOs</li> <li>- Hunters / farmers</li> </ul>	<ul style="list-style-type: none"> <li>Consultation at all levels for developing the draft law(s).</li> <li>Studies and inventories.</li> <li>Consultations with and surveys of hunters and farmers</li> </ul>	<ul style="list-style-type: none"> <li>- Preparation of the legislation</li> <li>- Boundary demarcation</li> <li>- IEC</li> <li>- Training of ranger-guards</li> <li>- establishment of a patrol system</li> <li>- Preparation of the environmental agreement</li> <li>- Design and execution of the management plan</li> </ul>	<ul style="list-style-type: none"> <li>Monitoring of law enforcement</li> <li>On-going patrolling of the core areas</li> <li>Monitoirng of the environmental agreement with the mining company</li> </ul>
<b>2: Agricultural revenues of local people increased on the basis of more productive practises</b>	<ul style="list-style-type: none"> <li>- CEGEN (researchers)</li> <li>- Development partners</li> <li>- Local residents</li> <li>- Farmers</li> <li>- Decentralised sectoral services</li> <li>- NGOs</li> <li>- Technical institutions</li> <li>- Private sector</li> </ul>	<ul style="list-style-type: none"> <li>- Collection of statistical agricultural data</li> <li>-Study of the land-tenure and ownership codes</li> <li>- Studies and data collection</li> </ul>	<ul style="list-style-type: none"> <li>Improvement of farming practices (works to permit irrigated agriculture in low-lying areas, improved seeds ... ) and extension services</li> <li>- Improvement of storage techniques</li> <li>- Marketing of products</li> <li>- Access to credit -</li> <li>- artisanal industries</li> </ul>	<ul style="list-style-type: none"> <li>- Continued research into new techniques</li> <li>- Extension services</li> <li>- Independent, self-management of rural collectives</li> </ul>

<b>3: Local needs for animal protein more fully met using practises that do not damage wildlife</b>	<ul style="list-style-type: none"> <li>- Animal breeders</li> <li>- Farmers and hunters</li> <li>- Local residents</li> <li>- CEGEN</li> <li>- Decentralised sectoral services</li> <li>- NGOs</li> </ul>	<ul style="list-style-type: none"> <li>- Information and statistical data collection on livestock &amp; other animal husbandry, and relations between animal breeders and farmers</li> </ul>	<ul style="list-style-type: none"> <li>- Organisation of animal husbandry activities</li> <li>- Improvement of pastures</li> <li>- Breeding trials for selected species</li> <li>- Promulgate/ raise awareness of and monitor the enforcement of hunting laws</li> </ul>	<ul style="list-style-type: none"> <li>- Continued extension efforts for animal breeders and independent, self-management of collectives</li> <li>- Monitoring of the impact of this animal husbandry</li> <li>- Successful enforcement of hunting laws and regulations</li> </ul>
<b>4: Improved health conditions, in particular among the neighbouring villages subject to constraints from the Nimba Mountains Biosphere Reserve</b>	<ul style="list-style-type: none"> <li>- Guinean State</li> <li>- CEGEN</li> <li>- Traditional doctors</li> <li>- Technical institutions</li> <li>- Decentralised sectoral services</li> <li>- NGOs</li> </ul>	<ul style="list-style-type: none"> <li>- Studies on the state and the coverage of health care in the zone</li> <li>- Consultations on the role and importance of traditional medicine</li> <li>- Statistics on the coverage of improved water-supply</li> </ul>	<ul style="list-style-type: none"> <li>- Training of health care personnel and</li> <li>- Provide better access to primary health care-</li> <li>- Construction of health stations</li> <li>- Improve the services provided by traditional doctors-</li> <li>- Improvement of the network of wells and pumps</li> </ul>	<ul style="list-style-type: none"> <li>- Continued training of personnel and monitor their services</li> <li>- Monitor the evolution of local populations' access to health care and potable water</li> </ul>
<b>5: Strengthened capacity of the Reserve's management structures, in particular of CEGEN</b>	<ul style="list-style-type: none"> <li>- Guinean State</li> <li>- Ministry of Environment</li> <li>- CEGEN</li> <li>- Technical institutions</li> <li>- Local residents, NGOs</li> <li>- Decentralised sectoral services</li> <li>- Development partners</li> <li>- Private sector/ RDC</li> </ul>	<ul style="list-style-type: none"> <li>- Information and awareness meetings</li> </ul>	<ul style="list-style-type: none"> <li>- Updating of the legal texts related to CEGEN</li> <li>- Conception and execution of a staff training and a M&amp;E programme</li> <li>- Creation and management of a georeferenced database</li> <li>- Creation of the Nimba Mountains Foundation</li> <li>- Continue IEC</li> </ul>	<ul style="list-style-type: none"> <li>- Proper implementation of relevant legal texts, and continuation of dialogue and planning</li> <li>- Regular updating of the database and monitoring of its management</li> <li>- Significant involvement of the national budget in the financing of natural resources conservation</li> </ul>

## **Annex 6: Monitoring and Evaluation Plan**

A systematic monitoring and evaluation process is required for the programme due to the number of desired programme partners, the need to ensure they work in harmony and realise synergies, and the need to manage programme assumptions and risks. From this process, programme managers will draw lessons to correct programme execution, involving a continuous cycle linking lessons, planning and action. Thus the monitoring and evaluation plan has been designed both as a means to monitor impact and progress towards achieving the programme's purpose, objectives and results, as well as a tools to build the capacity of CEGEN.

Programme monitoring and evaluation will be both internal and external. Internal monitoring and evaluation will consist of periodic (monthly or in some case quarterly) tracking of programme inputs and of progress towards realising individual activities. This will be compared to projected inputs and outputs from annual work programmes. Appropriate programme personnel will be responsible for tracking each component's staff, budget and technical and administrative matters. The National Administrator will oversee a national expert responsible for all tracking of programme progress.

Higher-level impact indicators for programme Results, Objectives and Purpose (see the Logical Framework, Annex 2) will be tracked and reported on comprehensively to the National Co-ordinator on at least a yearly basis. A summary table of such progress will be produced and circulated to programme partners. Monthly progress reports will be compiled and transmitted by the National Administrator to the National Co-ordinator; these will include a summary table of available information on activity-level indicators. An annual monitoring and evaluation report on the past year's activities will be produced that will also present the coming year's activities.

Tracking the higher-level, impact, indicators listed in the Logical Framework will involve both regular reporting within the programme team by thematic specialists, as well as analysis & interpretation of results from the ecological monitoring system (Activity 5.3) that will track such parameters as 'Forest cover restored in the core areas', 'Stabilisation or increases in populations of key indicator species' and 'Abundance of target species [wildlife species for local sustainable harvesting] stabilised and baseline level'. Therefore the design of the ecological monitoring system will be sure to consider the information needs of the M&E system.

In addition to tracking achievements against work plans, CEGEN will institute a system of institutional self-evaluation. Staff will develop training and performance goals, towards which progress will be measured regularly. At an organisational level, CEGEN's efficiency and effectiveness will be observed, and regular meetings of CEGEN staff will be held to review obstacles, solutions and lessons for making the institution as strong and effective as possible, with information flowing both upwards and downwards in the hierarchy. Within the programme lifetime, the goals of such an internal M&E system are to render CEGEN capable of operating independently and effectively after the programme ends, and to instill a culture of constructive internal communication and self-improvement.

Apart from the requisite yearly reports (including the combined APR/PIR report and audit), two external evaluations are planned, one at mid-term and a final evaluation. These will be conducted in line with GEF and UNDP procedures. They will focus on four main objectives:

- Measuring impact on globally significant resources and livelihoods;
- measuring the performance differences between what was planned and what was achieved;
- identifying problems related to executing the planned activities;
- proposing corrective measures and solutions; and
- extracting and documenting any more general lessons for this and other programmes.

In addition, the independent evaluations will extract lessons learned from this initiative that could be applied to other GEF projects, and similar initiatives.

The final evaluation will result in an exhaustive report as the programme ends on its achievements (programme performance, impact and lessons learnt). The total costs of monitoring and evaluation, including lessons learnt and exchange of experiences, is estimated at \$200,000 and will be taken into account in the programme budget. Details will be provided at the time of Appraisal

**Annex 7: Programme Indicative Workplan**

**Component 1: Ecological integrity assured for the core areas of the Nimba Mountains Biosphere Reserve**

Results / Activities	Y E A R								
	1	2	3	4	5	6	7	8	9
1.1. Boundaries of the core areas recognised, legalised and demarcated									
1.2. Dynamics of the core areas' biodiversity known, threats precisely described and management actions identified									
1.3. Decrease in incursions and illegal activities in the core areas									
1.4. Strengthened compatibility with planned mining activities									
1.5. Management plan prepared and implemented for the core areas									
1.6. Impacts of refugees do not affect the core areas									

**Component 2: Agricultural revenues of local people increased on the basis of more productive practises**

Results / Activities	Y E A R								
	1	2	3	4	5	6	7	8	9
2.1 Sustainable land use systems									
2.2. Increased agricultural yields									
2.3. Agricultural produce sold for higher prices									
2.4. Diversified income sources									

**Component 3: Local needs for animal protein more fully met using practises that do not damage wildlife**

Results / Activities	Y E A R								
	1	2	3	4	5	6	7	8	9
3.1. More productive animal husbandry, integrated with agriculture									
3.2. Breeding projects of wild animals tested and disseminated									
3.3. Wildlife resources co-managed with local populations in a sustainable manner									

**Component 4: Improved health conditions, in particular among the neighbouring villages subject to constraints from the Nimba Mountains Biosphere Reserve**

Results / Activities	Y E A R								
	1	2	3	4	5	6	7	8	9
4.1. Improved medical and para-medical health care									
4.2. Increased access to health care									
4.3. Increased access to potable water									
4.4. Improved hygiene practices									

**Component 5: Strengthened capacity of the Reserve’s management structures, in particular of CEGEN**

Results / Activities	Y E A R								
	1	2	3	4	5	6	7	8	9
5.1. Synergy ensured between institutions and between interventions									
5.2. CEGEN’s human and material resources strengthened and well managed									
5.3. An operational ecological monitoring system									
5.4. Guaranteed long-term funding for conservation									
5.5. Stakeholders better informed and aware of the issues and of resource conservation									
5.6 Contribution to a national protected area system									

## **Annex 8. Detailed Site Description and Socio-economic Profile of the Nimba Mountains Biosphere Reserve**

*Environmental context of the Nimba Mountains Biosphere Reserve.* The conservation status of the core areas of the Nimba Mountains Biosphere Reserve has significantly worsened over the last years as a direct and an indirect consequence of the poverty of the local population, which is reaching critical proportions<sup>2</sup>. The two primary factors behind environmental degradation in recent years have been:

- forest exploitation (commercial), in consideration of its rapid rate<sup>3</sup>;
- clearance of fertile land for cultivation, often in the Reserve's core areas, which at the same time facilitates forest exploitation.

A direct consequence of these two major factors is that some in local communities and authorities contest the very existence of the strictly protected areas which they see as obstacles to improving their lives and threatening the very survival of their families. From the start of the main programme, it will be necessary to produce tangible results that local populations understand.

Conservation of the Nimba Mountains World Heritage Site, the Déré Forest and the Bossou Hills / chimpanzees follows the philosophy and action plan envisioned for biosphere reserves by UNESCO's MAB Programme. As core conservation areas for the biosphere reserve, their boundaries were the subject of long negotiations (1991-93), beginning at the national level within the inter-ministerial Guinean MAB Committee. The management plan for the Nimba Mountains Biosphere Reserve was approved by the national MAB Committee during its extraordinary session of 1<sup>st</sup> June 1991, and later modified on 13<sup>th</sup> June 1993 in line with the comments made by the World Heritage Committee in its 15<sup>th</sup> Session in Carthage, Tunisia. The boundaries were debated also at the international level between affected stakeholders (international organisations, bilateral aid agencies, NGOs, private investors in the mining project). In this way the boundaries of the different core areas and other zones of the Biosphere Reserve were the result of a consensus that considered national economic development priorities, natural resource needs of local populations and the global imperative to conserve the biodiversity of the Nimba Mountains.

Regarding the status of the Reserve, in 1981 the Guinean government successfully proposed the creation of the "Nimba Mountains Strict Nature Reserve" as a world heritage site jointly with Côte d'Ivoire. One year earlier, in 1980, Guinean portion of the Nimba Mountains was gazetted as a biosphere reserve under the international MAB programme; however it did not fully follow the biosphere reserve concept of hierarchically nested land-use zones. In 1991, motivated by the Nimba Mountains Pilot Project (NMPP), the national MAB committee decided to develop this concept by extending the Reserve and zoning the Guinea Upper Cavally Basin. The former Reserve became a core protected area, except for the northern portion that was set aside for mining. With a part of the mountain removed from full protection, the strictly protected surface was expanded at a lower altitude with the addition of the Bossou Hills and Déré Forest core areas.

Then at its XVIth session in 1992, the World Heritage Committee included the Nimba Mountains on the list of World Heritage Sites in Danger. The threats mentioned were, first, the proposed mining project and second the massive influx of refugees from Liberia. Following consultations with concerned parties (Guinean government, UNDP, World Bank, UNEP, UNESCO, French Co-operation, the Guinean mining partners and national and international NGOs), the World Heritage Committee accepted the current

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<sup>2</sup> See the final report of the Nimba Mountains Pilot Project RG/UNDP/UNESCO GUI/89/004 entitled "*Poverty: the Primary Constraint to the Rational Management of the Natural Resources of the Nimba Mountains*", and the final report of the UNESCO/WHC mission to Guinea of 24 August to 28 September 2000.

<sup>3</sup> However this has come to a halt recently as in late 2001/early 2002, the President of Guinea issued a decree banning all forestry permits in *Guinée Forestière* and thus log exports.

zoning during its XVIIth session in 1993 which restores a portion of the section removed in 1991. In contrast to the pre-1991 situation, the only part missing from the original Reserve is the area corresponding to the iron ore deposit, which had been damaged by earlier prospecting (Ledant, 2001; Pascual, 2001). Regardless of its prestigious international status, this zoning has not yet been legalised by statutory text in national Guinean law.

### **The Nimba Mountains World Heritage Site**

This is the largest of the three core areas at 12,540 ha, or 8.6% of the Biosphere Reserve. In the northern half of the Nimba Mountain Chain, the peaks are covered with high-altitude savannah dominated by *Loudetia kagerensis*. There is hardly any soil cover and it forms only under thin mats of decaying vegetation around grassy tufts. These are stabilised due to the root system of the grassy cover and thus resist the constant strong winds and erosion during the rainy season. Soils are thicker on the rare flat surfaces such as seasonal ponds and near the tops of forested ravines. At lower altitudes, the ravines shelter tracts of remaining primary and secondary forest types such as:

- the montane forest dominated by *Parinari excelsa* (Sougué), above 900 metres, that covers the slopes of Mount Sempéré and Mount Pierré-Richaud up to 1600 metres in the Zié River ravine, but rarely ascending above 1300 metres on the slopes of Mount Leclerc ;
- Semi-deciduous forest, characterised by the relative importance of *Triplochiton scleroxylon* (Samba) found often in a degraded state near the base of the mountains, and in riparian formations in the mid-altitude parts of the ravines. In the central portion of the mountain range, from the Mount Richard-Molard to the Liberian border, geographically-specific vegetation types are found more frequently at the massif's peaks than on its slopes (Pascual, 2000).

This diversity of habitat types is characterised by equally diverse fauna. On the rocky mountain summits live an endemic population of hyrax (*Procavia capensis*). All other mammals are forest-dwelling or live at the forest edges. Of note are the bushbuck (*Tragelaphus scriptus*), the blue duiker (*Cephalophus monticola maxwelli*), the forest buffalo (*Syncerus caffer nanus*) and the bushpig (or red river hog - *Potamochoerus porcus*). Carnivores occupy different habitats on the mountain and at its base. Of note are the civet (*Viverra civetta*), the spotted palm civet (*Nandinia binotata*), the golden cat (*Felix aurata*) and genets (*Genetta genetta*, *G. servalina*, etc.). In terms of primates, mangabeys (*Cercocebus spp.*), cercopithecus monkeys (*Cercopithecus spp.*), colobus monkeys (*Colobus spp.*) and chimpanzees (*Pan troglodytes verus*) are abundant, but their populations are decreasing due to poaching and habitat loss. Chimpanzees are found particularly in high-altitude valleys where they seek refuge in montane forest (Pascual, 2000 ; Bangoura, 2001).

The most abundant animal species tend to be small in size, notably insects but also rodents, insectivores, reptiles and amphibians. The high-altitude savannahs are home to an important number of high-altitude species. Certain among them are found elsewhere whereas more than twenty, including the viviparous toad (*Nectophrynoïdes occidentalis*), are endemic to Nimba. Because of its outstanding scenic beauty and density of endemic and unusual animals, the tourism potential of the site is tremendous.

### **The Bossou Hills**

The Bossou Hills core area covers only about 0.22% of the surface area of the Reserve (320 ha). Its value is linked to the chimpanzee group (*Pan troglodytes verus*) that has lived there for centuries. These are of great scientific interest and have benefited from significant attention from Kyoto University researchers. These chimpanzees use stone tools and, according to oral tradition, live in harmony with the indigenous people of Bossou (the Manons). But this group, which is considered sacred by the residents of Bossou, is

threatened by forest clearance and human population growth. Nevertheless in the past few years its population has increased to 27 individuals, as of November 2001.

The Environmental Research Centre of Bossou is located adjacent to the core area. While local residents for centuries have lived in harmony with the chimps and respected their forest, misunderstandings with the non-local agencies officially responsible for managing the area have sparked encroachment on the forest itself. While ERIB, CEGEN and Bossou residents agree that the situation needs to be resolved in favour of a community-based co-management approach, a process of negotiating the details needs to be supported to realise this. The tourism potential of the area is very high given that the chimps are essentially habituated and easily seen. Benefit-sharing from tourism must form part of the co-management negotiations.

### **The Déré Forest**

The Déré Forest core area covers a relatively large surface areas, equivalent to 6.1% of the Reserve's surface area (8920 ha). Its forest cover extends uninterrupted into Côte d'Ivoire to the classified forests of Tiapleu and Niéton. The Déré Forest contains climax vegetation types of great botanical diversity that have been relatively well preserved for a long time (Von Droste *et al.*, 1993). The principal forestry species found include: Mansonia/Bete (*Mansonia altissima*), Arbura (*Mitragyna ciliata*), Ekki/Azobe (*Lophira alata*), Niangon (*Tarrietia utilis*), Acajou (*Khaya ivorensis*), Lova (*Lova trichiloïdes*), Danta/Kotibe (*Nesogardensia papaverifera*), Angueuk/Ksin/Kouero (*Ongokea gore*), *etc.*

Similar to the World Heritage Site, the Déré ecosystems provide refuge for numerous animal species: *Syncerus caffer nanus*, *Cephalophus spp.*, *Cercocebus spp.*, *Tragelaphus spp.*, *Choeropsis liberiensis* (the last remaining pygmy hippopotami in the region), *etc.*

The specific threats facing the Déré Forest include illegal logging (now ceased), agricultural encroachment and hunting following along roads opened for (illegal) logging. The facts that the border with Côte d'Ivoire has been unclear and threats appear to come from both sides further complicate managing disturbances to the area. These international issues are starting to be addressed under the tri-national dialogue and planning initiative for the Nimba Mountains (Annex 12).

### **Socio-economic Profile of the Upper Cavally Basin.**

In addition to its three core areas, the Nimba Mountains Biosphere Reserve consists of a buffer zone and transition area. Because pressures from communities in the buffer zone most directly impact the core areas, activities in this zone are to be strictly controlled so that they complement protection activities for the core areas rather than impact them negatively. The buffer zone is the area in which sustainable economic activities will first be tested and replicated; then they will be extended to the transition area. The transition area consists of the remaining part of the Guinean Upper Cavally Basin, between the buffer zone and outside the reserve, in which economic activities are to be controlled and sustainable alternatives actively encouraged, but at a less intense level than in the buffer zone (see map, Annex 15b). A profile of the buffer zone and transition area follows.

*National context.* In 1984, at the end of the First Republic, Guinea opted for a development model based upon liberal economic policy. As part of this policy, several economic forces and priorities appeared including the formation of farmer co-operatives/groupings, reforms specifying land rights, readjustment of prices, policies aimed at reviving agricultural research, an increase in agricultural production, collaborative management of biodiversity resources, improvement of sanitary conditions and poverty reduction (Letter of Agricultural Development Policy, 1997; Strategy for Poverty Reduction, 2000; Guinea, Vision 2010). Nevertheless, the economy's dependency on the primary sectors, raw materials

and natural resources remains very high. In order to diversify its sources of hard currency, the Guinean government envisages extraction of the rich iron ore deposits of the Nimba and Simandou Mountains.

In 1998, the Guinea's debt represented 102% of GNP and its debt-servicing ratio was 19.5% of exports of goods and services (UNDP, 2000). A large portion of the country's budgetary resources and foreign exchange thus goes directly to servicing the debt. This situation does not make financing the poverty reduction strategy, prepared with World Bank support, easy (Republic of Guinea, 2000). Because constraints linked to debt payments and poverty increase pressures on natural resources, this debt has a major impact on the biological diversity of the Upper Cavally Basin.

*The proposed iron-mining project.* The major investment planned for the Upper Cavally Basin is the Nimba iron-mining project, worth nearly US\$600 million. While iron mining appears socially beneficial, it is also ecologically dangerous. On the one hand it can provide the financial resources necessary for the country's development and create jobs (4,000 planned during the construction phase and 2,500 during the extraction phase), leading to an estimated influx of between 10,000 and 15,000 people. In this context, the changes in local agricultural production needed in the Upper Cavally Basin would be easier to realise. However according to current mining plans, this influx of resources and population would arrive well after the GEF programme is underway. In addition, iron ore extraction can have impact on the biological diversity and the high-altitude ecosystems that remain to be evaluated in the framework of a detailed Environmental Impact Assessment (EIA).

*Demographics and key socio-economic indicators in the Upper Cavally Basin.* Intense poverty persists in the Guinean Upper Cavally Basin. The NMPP estimated the Reserve's population at 59,000 inhabitants in 1992, or about 0.8%<sup>4</sup> of the Guinean population, most of them indigenous Manons and Konons living in 56 villages (1992 count), ranging in size from under 100 inhabitants to several thousand. Both the population and the number of villages has increased since then dramatically. Average population density is at least 97 inhabitants/km<sup>2</sup>, taking into account the area of habitable land versus areas unsuited to cultivation such as the large areas of savannah dominated by lateritic hardpans, the Reserve's core areas and the remaining forest fragments outside the core areas (Pascual, 1993; Dore, 2001).

The region exhibits a high rate of infant and child mortality: nearly 50% of all registered deaths during the last 20 years involve children from 0 to 5 years of age (Pascual, 1993). Under-nutrition (insufficient caloric consumption) and malnutrition (insufficient protein, vitamins and minerals as iodine and salt) are some of the main reasons for this high level of mortality, especially among children. In addition, to this must be added kwashiorkor, measles, tetanus, yellow fever, malaria, whooping cough, diarrhoea resulting from a variety of parasitic infections, and meningitis.

The region has one water supply source available for every 1,370 people or 208 households<sup>3</sup>. Prophylactic and hygiene services are insufficient, which explains the proliferation of mosquitoes and prevalence of malaria (Diallo, 2001). Statistics for life expectancy are not available, but the national expectancy is estimated at 46.5 years for the period 1995-2000 (UNDP, 2000) and has increased by 10 years since 1970.

Regarding education, there are 95 primary schools for 17,277 pupils and 394 teachers, in other words one teacher for almost every 44 primary school pupils. There are 10 secondary schools for 3,234 pupils and

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<sup>3</sup> Total population: 7.3 million inhabitants (UNDP, 2000)

<sup>3</sup> This ratio is well below the objective of NSSWS (National Support Service to Water Sources) which is to provide 10 litres of water per day and per person by 2005. The current shortfall relative to this objective is 261 water sources/wells.

118 teachers, i.e. one teacher for 27.4 secondary school pupils. Currently girls remain less educated than boys and school infrastructure remains inadequate (Diallo, 2001).

In spite of the preceding factors, population growth in the Upper Cavally Basin is high, about 4.1% per year, a rate higher than the national average of 3.1%. This high rate is due mainly to immigration (Diallo, 2001). The agricultural potential of arable land in the Upper Cavally Basin - including more than 50,000 ha - its good rainfall averaging 2,013 mm per year (Conde, 2001), along with the existence of forestry activities and iron-ore prospecting, have sparked the influx of immigrants from sahelo-sudanese regions, most of whom have settled, causing pressures on local natural resources and introducing new techniques, some of which upset the local ecological balance. The population of indigenous inhabitants appears fairly stable thus most of the population increase is from internal Guinean immigration. As elsewhere in Africa, the Upper Cavally Basin's population is very young: 40% is under 15 years of age (Dore, 2001).

Between 1990 and 1997, the wars in Liberia and Sierra Leone displaced approximately 40,000 refugees into the Upper Cavally Basin. A portion of this population still resides there, although most have returned. UNHRC played an active role in accommodating this population, and would need to continue if large population movements re-occurred in the area, to ensure food security as well as to minimise additional pressures on already limited natural resources like land, water and forests.

The indigenous peoples of the NMBR are the Manons and Konons. The Manons live in the west and south of the Reserve (principally the Bossou sub-prefecture) mostly along the Liberian border, while the Konons live in the north and east of the Reserve along the Ivoirian border and in the sub-prefectures of N'Zoo, Tounkarata and Gama-Bèrèma. While the two cultures are quite similar in fundamental ways, they speak different dialects and consider themselves distinct. As a result of the hostilities up to 2000 along the Guinean-Liberian border, the Manons, who are the dominant people along both sides of the border and drawing on many generations of open exchange across political divisions, agreed a non-aggression pact among themselves: they will neither engage in hostilities across the political boundary nor harbour rebels that may try to do so. This pact, in effect since early 2001, has succeeded in keeping the local area peaceful at a time when hostilities were plaguing the border zone to the west.

The Manons and Konons traditionally protect sacred forests which are used for adolescent initiation rites and for adult initiation into cultural practices related to religion, history and medicine to name a few. They are places where those undergoing initiation or another rite are "eaten and killed", in the depths of the forest removed from human civilisation, to re-appear later with new social status and knowledge. Forests and the Nimba Mountains are also the abodes of ancestors, spirits and deities, areas representing the ties between and thus unity of human civilisation, the natural world and the supernatural (Doré 2001). Before large influxes of peoples from elsewhere in Guinea and of refugees in the 1990s, and before the forestry industry blossomed, these traditions and beliefs helped to preserve large areas of forest in the Upper Cavally Basin.

*The economy of the Upper Cavally Basin and impacts on natural resources.* Generally speaking, the three principal internal variables characterising the evolution of the Upper Cavally Basin's economy are an increasing informal sector, trade with Côte d'Ivoire and social networks<sup>5</sup>. The increasing informal sector of the economy, especially tertiary occupations for basic survival, has a direct impact on natural resources. The majority of the population depends on agricultural production and, to varying degrees, on so-called 'informal activities' including micro-retail businesses, road services, restauration and transportation services. Certain services are rendered to individuals; others relate to the exploitation of fuelwood, hunting and the collection of medicinal plants. The structure of the local economy is explained

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<sup>5</sup> Relations based upon kinship, ethnicity or religion (Hugon, 1999).

by the local lack of capital and the need to provide small quantities of goods to a clientele with low purchasing power.

Commercial exchanges with Côte d'Ivoire flip-flop depending on the season, on the prices of the commodities traded (coffee, cola nut, palm oil) and on foodstuffs (essentially rice). Agricultural products (rice, bananas, cola nuts, etc.) are the most widely traded, but imported goods (tools, hardware, cooking utensils, clothes, etc.) are traded as well. This trade and social networks have an impact on the conservation of forest resources, most notably through undermining sustainable local economic production and promoting conversion of forested land (the case of the Déré Forest ecosystem especially but also the World Heritage Site and the Bossou Hills) for cultivation. Because the price of a large part of a given harvest is negotiated at times of over-supply and at unfavourable prices in order to reimburse debts owed to traders by (Guinean) producers/farmers, these are perpetually indebted and seek short-term production gains from increasingly limited and depleted agricultural land (Pascual, 2001). Trade is linked principally to weekly markets (Lola, N'zérékoré, Gama-Béréma, Tounkara, etc.) and to sub-regional markets (in Côte d'Ivoire and Liberia).

In the Nimba Mountains Biosphere Reserve, agriculture is characterised by slash-and-burn techniques, the absence of fertilisers and mechanisation, and isolation/difficulty of access to production areas. In the past, when the fallow times were as long as 15 years, or when primary forest remained in the Upper Cavally Basin and could be cleared, yields of rain-fed, non-irrigated rice could reach 2.5 tons/ha. Today, with reduced fallow times, production is well under 1 ton/ha, although the same amount of work is required. This situation has led today to:

- degradation of the vegetative cover;
- signification increases in immediate run-off in riverways (reduction of water-retention capacity);
- impoverishment of soils due to erosion and increases in the sand content;
- decreasing soil productivity; and
- an overall advanced level of environmental degradation.

Land/environmental degradation occurs through the reduction of forest cover, the increasingly frequent use of seasonal bushfires, demographic pressures and the reduction of fallow periods from 15 years (distant past) to 5 years (recent past) to 3 and even 2 years (today). Of the 150,000 hectares in the Reserve, approximately 78,620 hectares of upland non-irrigated land were cultivated in the 2000-2001 growing season, not including irrigated rice and home gardens. In other words over 52% of the surface area of the Reserve was cultivated, covering the following percentages of the Reserve in the following RDCs: Bossou (13%), N'Zoo (6.4%), Tounkarata (5%), Gama-Béréma (7.65%) and Urban Commune of Lola (20%). While the exact state of degradation of these areas has not been systematically researched, much of it is in a state of moderate to advanced degradation, especially around villages adjacent to the core areas (Bossou, N'Zoom etc.) where land scarcity tends to be most acute.

The villages of the RDCs of Bossou and N'Zoo are subject to constraints because of their proximity to the Reserve's core areas. In several cases their land was expropriated when the three core areas were defined, a problem which has been aggravated by land-tenure issues and population growth. Land clearance, slash-and-burn agriculture, tree-felling, bush fires, uncontrolled hunting and fishing provoke ever intensifying land degradation. As the staple crop for the region, a family cultivates 1 to 1.5 hectares of upland rice with yields of 0.7-0.8 tons/ha. Seldom do rural families farm more than 2 hectares. This combined with population growth thus explain attempts to convert core areas of the Reserve to cultivation (Condé, 2001).

The development of low-lying or riparian zones for agriculture, specifically for irrigated rice cultivation, has been recent. This technology gives significant yields which can reach 6 tons/ha at peak efficiency, and has experienced success due to the support of UNHCR and the International Fund for Agricultural

Development (IFAD). But such low-lying sites are limited to the south-western part of the Biosphere Reserve and concern only a small proportion of the local populations (Pascual, 2001).

Traditionally hunting provided all the needed animal protein, and animal husbandry was practised essentially for cultural reasons. Today, in spite of the scarcity of game outside of protected areas, most domestic animals like sheep, goats and poultry are still bred for cultural purposes. In the Konon and Manon cultures of the Upper Cavally Basin, sheep, goats and poultry are destined to be burned in sacrifices of all sorts or to be offered to distinguished members of the village, clan or family. Therefore they have a “social value” that other animals, like pigs, do not have (Doré, 2001; Traoré, 2001; Mansare, 2001).

For almost 10 years, cattle have been raised in the savannahs surrounding the lowlands in the south-western region of the Upper Cavally Basin. Raising cattle is a source of conflict between pastoralists and farmers because cattle are not kept in enclosures and often destroy food crops. Pastoral activities impact the environment due to the trampling caused by cattle and fires set during the dry season to rejuvenate grassy pastures but which frequently burn out of control. Cattle-raising also favours the proliferation of insects, which are disease vectors (Pascual, 2001).

Unlike cattle raising, pig farming has been practised for several decades. With a low Islamic population, marketing of pork is not forbidden in local dietary customs and is a source of income for many households. Thus pig farming could be an important part of a strategy to combat poaching. The same is true for cane rat (*Tryonomus swinderianus*) breeding which is being tried in the region (Bangoura, 2001; Doré, 2001). It could succeed because the meat is a local delicacy.

Regarding forest utilisation, wood supplies about 90% of household energy requirements (cooking food, heating and light). It is gathered from plantations, fallow lands, land being cleared and forest undergrowth. In certain towns, it is sold commercially where the fuelwood market is substantial and organised, especially along roads (Sadio Sow, 2000; Diallo, 2001). Charcoal is produced in Lola. Rural inhabitants as well as recently arrived refugees tend to be the traders in bundles of firewood and charcoal.

Other than fuelwood cutting, forests are used for construction wood, small-scale village-level logging and industrial logging. They are used also for collection of secondary products (raffia, dyes, natural toothbrushes, medicinal plants...). Industrial logging in Guinea began in 1969 and has increased in recent years (Sadio Sow, 2000), reaching an official production of 6,354 m<sup>3</sup> in 1999 (Diallo, 2001). Today, natural dense forests outside the Biosphere Reserve's core areas have nearly disappeared, with the exceptions of a few isolated groves that are conserved near villages for sacred purposes, or of gallery forests along waterways. However with the decree halting forestry activities since early 2002, threats from commercial forestry have subsided for now.

Managing forestry is the responsibility of the Directorate of Water & Forests, which is part of the Ministry of Agriculture. A forestry company wishing to obtain a logging concession works with the local Water & Forest agents to identify an area and prepare the technical specifications (*cahier des charges*) the concessionaire must follow in carrying out any logging. This generally includes preparing an inventory and annual coupe plans, reforesting after logging or reforesting degraded areas, as well as constructing and maintaining infrastructure (roads and bridges) and possibly assisting local communities with schools, clinics and other support. The *cahier des charges* specifies the minimum diameters for particular species that may be cut, as well as the responsibilities if any of the logger to protect the area from encroachment during and following logging. All *cahiers des charges* must be consistent with the Forestry Act which specifies general responsibilities, rules and regulations concerning commercial forestry. Once a proposed forestry concession is agreed between the concessionaire and Water & Forests agents, the request is channeled up to the Minister of Agriculture for approval. A concessionaire is supposed to operate

according to the *cahier des charges* and under the supervision of a locally assigned Water & Forests agent.

Guinea has a Tropical Forestry Action Plan which was under implementation in Forested Guinea or "*Guinée Forestière*" at the time of writing. However its impact in the province has not been felt significantly.

In *Guinée Forestière*, commercial forestry began in earnest in the 1980s and was a major industry of the region throughout the 1990s. Some of the production was for local consumption while a very large proportion was destined for export, usually as round logs but also as planks, through Liberia and Côte d'Ivoire. Exports have fluctuated, however, as a result of the opening and closing of international borders. In 2002, the forestry industry in *Guinée Forestière* has suffered the set-backs of a presidential decree banning all commercial tree-cutting in the province, and the closure of the borders with Liberia and Côte d'Ivoire. However logging continues, although illicitly, with the complicity of some authorities.

Despite the emergence of commercial forestry as a powerful force in the regional economy in the 1980s, historically forest loss and degradation in *Guinée Forestière* and the Nimba region is due largely to subsistence agriculture, followed by livestock raising and settlements. Commercial forestry is not directly responsible for much forest loss. However over the past decade it is responsible for opening up many of the last remaining forest blocks to slash-and-burn agriculture and hunting, fragmenting, degrading and reducing their ability to recover from disturbance.

While the Forestry Act is sound, enforcement of its provisions and of *cahier des charges* by the Directorate of Water & Forests has been seriously undermined by lack of logistical means, low motivation and loopholes allowing loggers to operate outside of normal concession agreements. For example, concessionaires can enter into agreements with communities to provide them roads and other infrastructure, cutting trees between 500-1000 meters on either side of the road. This kind of social service provision is not managed in the same way as normal concessions, and some loggers have taken advantage of the lack of supervision to direct roads through forest patches rich in commercial species, cutting several kilometers on either side of the road, and even directing roads through protected forests.

Were all legal texts applied carefully, forest cover in *Guinée Forestière* would be greater, forest blocks would be significantly more intact and forests would represent a far greater economic resource for the future than they currently do. Reforestation and enrichment plantings of logged-over areas would cover substantial areas of the province. Until the early 2002 presidential decree banning logging, *Guinée Forestière* was rapidly selling short a major component of its future economy.

In the 1990s, the GTZ, KfW and Directorate of Water & Forests launched the Rural Resources Management Project and established the N'Zérékoré Forestry Centre. This support has helped to strengthen management of the Diécké, Ziama and Mont Béro Classified Forests of *Guinée Forestière*. In 2003 parts of the programme will be extended to three additional classified forests, but not in the Nimba Mountains Biosphere Reserve.

With respect to the proposed programme, the baseline in the NMBR consists of ensuring that the presidential decree is effectively enforced and that loggers do not escape through loopholes, with local collusion. Logging by commercial foresters is not a problem for the Nimba Mountains or the Bossou Hills, but has been highly damaging to the Déré Forest, and parts of the Buffer Zone and Transition Area. As the Directorate of Water & Forests is CEGEN's main partner for managing the Déré Forest and forests outside the core areas, responsibility falls to it to ensure the baseline is met, with CEGEN's oversight through the planning committees and preparation of the Reserve's development master-plan, described under activities 1.5.2-4.

The GEF option would not change the baseline in any appreciable way as far as commercial logging is concerned. The only difference would be that forestry is programmed according to a regional land-use plan, improving its integration with other economic activities.

Hunting is one of the most widespread traditional activities, game being the main local source of protein. It is practised in many ways and in all seasons: snares, flushing animals from hiding places and shotguns are the most common hunting methods. The cane rat is the most prized prey. Game is destined for both household consumption as well as for sale (Dore, 2001; Bangoura, 2001). In addition to hunting, collection of snails, caterpillars, termites and frogs is commonplace.

Additional socio-economic details on the Upper Cavally Basin, and on particular towns and sectors, are available in the national consultants' reports.

## **Annex 9: Lessons learned from other programmes**

In the Nimba Mountains region, especially in the Upper Cavally River Basin, there are numerous and varied completed projects or projects under implementation that have or could have relevance to the current programme. Numerous other projects elsewhere in the country can inform execution of the current programme to conserve the biodiversity of the Nimba Mountains. Notable among these are the Rural Resources Management Project (RRMP), the Palm Oil and Rubber Company of Guinea (SOGUIPAH) and the Haut Niger National Park.

### 1. The Nimba Mountains Pilot Project.

At the initiative of the Guinean Government, the Nimba Mountains Pilot Project (NMPP) was financed by UNDP, UNESCO and the World Bank (with a grant from the Japanese Government) and executed from 1989 to 1993. Because of the context in which it was conceived and its implementation strategy, the Pilot Project intended to address the Government's concern of reconciling mining of the iron ore deposits of the Nimba Mountains and protection of the exceptional bio-genetic resources that were the impetus for inscribing the Guinean part of the mountain chain on the list of World Heritage Sites.

Specifically, the Pilot Project permitted :

- Establishing a management plan for the Biosphere Reserve that today consists of a zoning plan composed of three core conservation areas, a buffer zone and a transition area;
- Improving understanding of the socio-economic and environmental contexts of biodiversity conservation at the Nimba Mountains;
- Preparing recommendations aiming at limiting impacts of the mining project on the environment and implementing a series of actions to support local residents, whose extreme poverty had become apparent;
- Obtaining consensus on the present boundaries of the World Heritage Site and the mining concession;
- Installing infrastructure (a network of signs of the zoning of the Reserve, ranger outposts, a network of meteorological and hydrological monitoring stations); and
- Creating the autonomous agency responsible for managing the site: the Centre for the Management of the Environment of the Nimba Mountains (known by its French acronym *CEGEN*).

In close collaboration with the NMPP, the following activities were carried out:

- The environmental impact assessment study of 1990 by the Central Office for Overseas Studies (BCEOM) of France; and
- The multidisciplinary mission of May 1993 organised jointly by the World Heritage Centre of UNESCO and the Guinean Government.

Numerous activities were undertaken during the Pilot Project that were not completed and should be pursued in the context of the present Nimba Mountains Biodiversity Conservation Programme. Furthermore gaps in the NNMP and successful and unsuccessful approaches were very strongly considered in the preparation of the proposed programme, as much of the NNMP team participated in PDF B activities.

### 2. The Rural Resources Management Project.

Financed by the World Bank and the KfW (German Technical and Financial Co-operation), the RRMP is essentially a forest resources management project working in the classified forests of Ziama, Diécké and Mont Béro, with an important component focusing on related community outreach and support for

residents living around these forests. Project activities include planning and conservation of forest resources as well as training of personnel.

The management plan of these classified forests, prepared in 1995, includes biodiversity protection, improving forest resources and long-term provision of construction and carpentry wood.

The Ziama Classified Forest is located about 150 km north-west of the Nimba Mountains Biosphere Reserve. In the particular case of the Ziama Forest, which has been protected since 1942 and covers 112,000 hectares of dense forest, the Forest's present management plan contains a protected zone (36% of its area), a sustainable use zone (41%) and a rehabilitation zone (23%). The protected zone is located in about the centre of the Forest and serves as a genetic reservoir for fauna and flora where no activity beyond research and eco-tourism is permitted. In the sustainable use zone, permitted activities include firewood collection, collection of non-timber forest products and medicinal plants, timber improvement fellings and timber harvest only with the authorisation of the N'Zérékoré Forestry Centre.

The forest inventory in the sustainable use zone includes the collection of seeds for nurseries of local species.

From 1997 to 31<sup>st</sup> December 2001, 1105 seed-producing trees were visited in the protected zone and more than 2280 hectares of the rehabilitation zone were consequently reforested.

Local populations are more and more involved in these activities and private nurseries belonging to local residents were supplied by the stocks at the Forestry Centre.

In addition, the Ziama Reserve boasts ten ranger stations around its boundary, with two rangers per station, responsible for patrolling, maintaining the boundaries and collecting seeds.

The biodiversity division of the Ziama Reserve is responsible for monitoring dynamics of animal and plant species present. For this, the division prepared 15 transects and trails in the forest to ensure faunal and floral monitoring, in collaboration with local hunters.

The success of the RRMP in combining classic forest management and protection measures with community outreach has been a model for the Nimba Mountains programme, in terms of both the activities chosen and the process followed to identify and plan activities.

### 3. The Palm Oil and Rubber Company of Guinea.

A product of Franco-guinean development aid, the Palm Oil and Rubber Company of Guinea (SOGUIPAH) is a mixed public-private company located at Yomou in Forested Guinea, not far from the Nimba Mountains (about one hundred kilometres as the crow flies).

The climatic, socio-cultural and environmental conditions where SOGUIPAH is active resemble those of the Nimba Mountains region.

SOGUIPAH is of interest to the present biodiversity conservation programme in its (SOGUIPAH's) innovative types and methods of land-use by participants. SOGUIPAH's swamp-land agricultural systems consist of irrigated rice on the floodable lowlands surrounded by trees planted on the banks and higher areas. In this way, the rural farmer or grouping of rural farmers receiving support produces rice in the bed of the wetland and oil palm, rubber or coffee on the surrounding slopes.

In addition to protecting against erosion, damaging floods/currents and siltation, this approach allows farmers to settle in lowland areas, and to diversify and improve their income. This experience is desirable

for the rest of Forested Guinea because it has proven itself successful and fruitful for rural farmers of the Yomou region. The proposed agricultural system is for 0.5 hectares of rice, 1 ha of oil palm and 1 ha of rubber per family of about 10 people, of whom 4 can work.

The average yield is approximately 3.8 tonnes/ha with fertiliser use. The average income comes to about 150,000 Guinean francs (GF) per month, assuming 400,000-450,000 GF/ha-year from palm oil, 1.2 million GF/ha-year from rubber with all rice for family consumption.

The cost of preparing one hectare comes to 2.5 million GF with rural farmers contributing 15% of the cost which they reimburse with in-kind payments of rice.

Due to the success of this system at Yomou, which has resulted in spectacular increases in local populations' incomes in one decade, the residents around the base of the Nimba Mountains wish to see this programme transferred to their region.

#### 4. The Haut Niger National Park.

Straddling the prefectures of Faranah and Kouroussa in the province of Upper Guinea, Haut Niger National Park is benefitting from European Union financial and technical assistance in the context of a programme to protect and regulate hydrological flow of rivers in West Africa originating in Guinea.

The programme's objectives include:

- conserving the watersheds of the Upper Niger River, protection of the Mafon Classified Forest and other fragments of dry forest, which represent the last remnants of this forest type in Guinea and probably in West Africa;
- conserving biological and inanimate resources of the Park, biodiversity and ecosystems;
- promoting sustainable use of resources through controlling hunting, fishing, bush fires and limiting wood-cutting;
- raising awareness of, involving and empowering local populations in the management and protection of resources;
- promoting scientific research to improve knowledge of plant and animal resources in the Park, and cultural, social and religious dimensions to resource use; and
- supporting the emergence of a policy of supporting resource conservation in Guinea, based on legal recognition of the roles of local populations in resource management.

The Haut Niger National park has a management plan specifying a strictly protected area or core area, corresponding to the Mafon Classified Forest, and a buffer zone. This latter area covers approximately 80% of the total area of the Park, and is composed of a primary buffer zone that entirely surrounds the core area, and a second buffer zone that surrounds the first.

Because the strictly protected area (554 km<sup>2</sup>) represents a very small part of the Park (6,470 km<sup>2</sup>), strictly protecting it necessitated close collaboration with the local population whose traditions of warfare and hunting put pressure on this core area.

By gradually increasing conservation activities and thus reducing free exploitation of resources, this more or less concentric zoning permitted a gradual reduction in human impacts on the strictly protected area. Leaving from the strictly protected area, where all activities are forbidden, one arrives at the first buffer zone whose primary objective is sustainable resource use, and then at the second buffer zone where the principal objective is promoting and improving integrated agriculture, tree crops and livestock raising.

From the standpoints of its management plan, its community empowerment-based natural resources management programme and its development master-plan, the Haut Niger National Park has much to offer the Nimba Mountains Biodiversity Conservation programme. Already during the preparatory phase of the Nimba programme, useful information and approaches have been gleaned from the managers of the Haut Niger National Park programme, such as on the legal bases for community management of natural resources. There is every reason to hope for fruitful collaboration and exchange of lessons during the Nimba programme.

More generally, the Nimba Mountains Biodiversity Conservation programme has benefitted and will continue to benefit from experience gained from the many projects and programmes, at home and internationally, in the same manner as it must contribute its lessons and experience to numerous national projects and programmes in the future.

## **Annex 10: Summary of negotiations with the mining partner.**

*The Earth does not belong to us; we borrow it from our children.* Antoine de St Exupéry,  
quoted by André Papon, president of the Board of EuroNimba, to the Ministry of Mines, Geology and  
Environment, 11-02

For several decades, Guinea has shown its desire to utilise the iron ore deposits of the Nimba Mountains in order to diversify and increase the foreign exchange needed to modernise the country and develop *Guinée Forestière*, better linking it to the rest of the country. Although the quality of the ore among the highest in the world (hematitic ore in sheets containing 67% iron), launching the Iron Mining Project faces two principal difficulties. The first relates to environmental concerns and the need to protect natural habitats in the Nimba Mountains region in light of their global significance and their international “biosphere reserve” and “world heritage site” status. The second concerns attracting investors to the Mining Project, in particular mobilising funds to construct the industrial complex before mining can begin.

*The Principal Actors.* The Nimba Mountains Mining Project is supported by the European iron-steel company EUROFER, in particular the French iron-steel company USINOR-SACILOR and the Italian company FINSINDER, who see the potential to establish a competitive, high-quality iron ore production industry near Europe and to escape the current monopoly controlled by Australian and Brazilian mines.

In 1987, international iron markets were strong and provided the impetus to the Guinean Government to re-start the Nimba Mountains Mining Project. In order to take advantage of the niche offered by world iron ore markets, the Guinean Government contacted the French BRGM<sup>6</sup> to assist it to launch this Mining Project. A new international company was created in 1990 to implement the Project, NIMCO, bringing together Guinea and Liberia with a consortium of private investors. This consortium, EuroNimba, was composed of different industrial companies of various nationalities - SUMITOMO<sup>7</sup>, AMCL<sup>8</sup>, BRGM - and took over the assets (mining rights) and liabilities (debt related to the earlier prospecting work) of MIFERGUI.

*Environmental Concerns.* Re-starting the Nimba Mountains Iron Mining Project next to such a prestigious (World Heritage) site sparked worries in the international community that it would lead to environmental degradation. Numerous national and international meetings were organised to study the possible disturbances, to inform national and international stakeholders, and to reconcile ecological and mining concerns. Stated otherwise, the discussions focused on reconciling Guinea’s development needs with its obligations to conserve world heritage. Eventually consensus was reached. The most important of these meetings included:

- the 1991 Paris seminar to present the “environmental evaluation of 1990” which brought together representatives of the Guinean Government, international organisations (the World Bank, UNDP, UNESCO), international NGOs (IUCN, WWF), representatives of the French Government (ministries of international development and environment), and Guinea’s partners in the Mining Project;

- the planning meeting between Guinea and Côte d’Ivoire at the Nimba Mountains in July 1992 with the participation of the principal national authorities of the two countries, which prepared the bases for a bilateral agreement for protection and conservation of the Nimba Mountains;

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<sup>6</sup> BRGM = ‘Bureau de recherches géologique et minière’, or Geological and Mineral Research Bureau, a French para-statal company with several subsidiaries such as SOCOMINE, COFRAMINES, etc., whose mining activities were taken over by LA SOURCE, a mining company linked to the Australian group NORMANDY.

<sup>7</sup> This is an important Japanese industrial company known in particular for its tyres.

<sup>8</sup> African Mining Consortium Ltd, a holding company that acquired LAMCO’s activities in the 1990s in the context of a bridging project intended to maintain operations for the Libeiran mining infrastructure further south at Yekepa.

- the December 1992 planning meeting at UNESCO headquarters (Paris) between representatives of the Guinean Government, international organisations, international NGOs, representatives of the French Government and the international partners in the Mining Project. This resulted in proposing recommendations to the inter-governmental World Heritage meeting of Santa-Fé, New Mexico (USA);

- the inter-disciplinary mission organised and financed by the World Heritage Centre, 15-30 May 1993, bringing together at Nimba representatives of relevant Guinean national authorities, NGOs, UNDP, UNEP, IUCN and UNESCO experts. This meeting resulted in definitive resolution of the problem of the World Heritage Site's boundaries.

Many other meetings, planning sessions and information debriefings were held to address the different repercussions of the Guinean Government's actions in the Nimba Mountains. Each meeting was able to resolve a particular point, overcome misunderstandings concerning development of the Nimba region, and agree precautionary or environmental engineering measures for the Mining Project and to protect the World Heritage Site.

Minimizing the impact of the Mining Project would be achieved through the strict environmental protection measures spelled out contractually between Government and the mining company, and reinforced by the transparency and moral presence from the proposed programme and later the Nimba Foundation (or similar) to be created (see Annex 11). Several important restrictions to potential environmental disturbances from mining and important mitigation measures were negotiated, compared to how the Mining Project had been proposed in the early 1990s. Among these are:

- reduction of the size (surface area) of the industrial complex at and near the mining site,
- avoiding mining the crest of the mountain chain so not to disrupt local climate patterns, and foregoing mining the deposit at Grands Rochers, which is kept as part of the World Heritage Site,
- dumping mine wastes in only one valley (the upper Zié River valley) and equipping the site with a decanting system, whereas originally mine wastes were planned to be spread across all across the mountain chain,
- siting of the railway terminal and loading station 8 km from the boundary of the WHS, and siting the ore conveyor system from the mine to the loading station in such a way as to avoid unnecessary ecological disturbance and destruction of natural forest patches and other habitat, and
- having all stakeholders examine an 'environmental convention' for the Mining Project.

In addition, the Mining Project proponents accepted to set aside US\$500,000 per annum from ore sales for the protection, sustainable development and scientific monitoring of the Nimba Mountains Reserve. With respect to this contribution, the out-going Minister of Mines, Geology and Environment suggested that an advance on the first 5 years of the Mining Company's contributions be made just after the signature of the mining convention between Government and the Investors, in order to address the urgent problems of conservation of the core areas and development in the surrounding areas of the Reserve.

*The Mining Project's Financial Viability – a Question of Transportation.* Resolution of the environmental aspects of the Mining Project and the commitments made jointly by all stakeholders have reassured potential investors in the Project. However other concerns must be addressed in order for the Project to be feasible including, in first place, its financial viability. The required investment costs for mining to begin were estimated at US\$700 - 1,500 million in 1990<sup>9</sup>, given the solution agreed for transporting the ore and the schedule for its amortisation assuming an annual production of 12 Mt (megatons) per annum and revenues

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<sup>9</sup> Sums taken from Kaiser's 1978 feasibility study. These figures must be revised and will likely increase significantly in the context of the current project between Guinea and EURONIMBA.

estimated at about US\$240 million. Secondly one must consider the security of the Mining Project and the sustainability of peace and stability in the sub-region so that mining is not interrupted for reasons outside the control of the Mining Company. From this perspective, the “national [transportation] solution” - which involves constructing or upgrading the trans-Guinean railway and transporting the ore to port entirely within Guinea – is the most reassuring to potential investors.

*Recent Developments in the Mining Project and the Mining Agreement.* Aside from the environmental questions that have been resolved consensually by concerned stakeholders, different successive events have slowed realisation of the Nimba Mountains Iron Mining Project, including:

- ??the destructive civil war in Liberia from end-1989 until 1996;
- ??a deterioration in relations between Guinea and Liberia due to uncontrolled rebel groups in Guinean border villages;
- ??restructuring of BRGM, the French partner of Guinea in NIMCO, via EuroNimba, the privatisation of its mining activities and the addition of the mining company GENCOR in LASOURCE (a recently created mining company resulting from the privatisation of BRGM); and
- ??the need to create a new entity to take over the assest of NIMCO, namely SMFG (*Société des Mines de fer de Guinée*, the Guinean Iron Mines Company).

No field activity for the Mining Project with any significant impact on the environment of the World Heritage Site has been undertaken since the mid-1970s at the end of the detailed prospecting of the Pierré Richaud deposit by KAISER.

While it is still being created, SMFG would bring together the State of Guinea with the group of investors known as EuroNimba, which is currently made up of BHP-Billeteon, Normandy-LaSource, AMCL, Sumitomo and Comincor. After having been discussed for several months between the partners, an Agreement (or “Convention”) for the mining concession has been prepared in 2002 presented to the Government for signature. It would be a requirement of creating SMFG. This Agreement intends to increase ore production from 12 Mt/year, as initially planned by Nimco, to 20 Mt/year. The Convention also incorporates the principle of contributions from the Mining Consortium of \$500,000 per annum to a fund or foundation for the NMBR. Finally, the Convention incorporates a clause that these funds would be advanced as soon as the Convention is signed, even before prospecting starts in the area, so that the enabling environment in the NMBR can be strengthened.

The agreement mentions also the Project’s different legal, administrative and financial terms and conditions. It emphasises several options to transport the ore on a transguinean railway that cuts across the north of Sierra Leone and that facilitates exporting ore also from the Simandou Mountains, currently being prospected in co-operation with the mining company Rio Tinto. The Mining Project’s economic feasibility study should determine the most profitable option for Guinea and its partners.

*Environmental Aspects of the Convention.* As witnessed by their open and collaborative participation in negotiations on environmental issues over the past decade, the Mining Company has accepted that the major points agreed from these negotiations be included in the overall Mining Agreement. Thus environment is mentioned as early as article 2 of the agreement, entitled **Objective of the Agreement:**

“2.3 In consideration of the particular location of the deposits of the Nimba Mountains, near to a reserve included on the list of World Heritage Sites, the current Agreement considers, in the greatest detail possible, questions and measures for protecting the environment...”

Article 29 of the Agreement, ‘Framework for commitments related to the environment’, reads as follows:

“29.1 Environmental obligations:

“Remembering that the State [Guinea] and the Investor [EuroNimba] wish to develop and exploit the iron ore deposits of the Nimba Mountains in the interest of all concerned parties, and considering the environmental matter that the deposits are located within a region whose ecological and scientific value is universally recognised,

“In the realm of environment, in order to have a positive effect on the environment and by creating significant economic activity in the region, exploiting the iron ore deposits of the Nimba Mountains by the Company will take a double approach:

- of taking all necessary measures to protect the site(s) from all industrial pollution, by realising the civil works and engineering needed and relying on the most effective scientific and technical means in systematic and permanent fashion to monitor and control disturbances to forests and grasslands, reducing and limiting disturbances to these; [and]

- of contributing to setting up an eco-development project. This will be will implemented thanks to the economic opportunities brought by mining and to related social and health improvements. Such activities will improve the means and living conditions of the local population and will lead them to limit the pressures that degrade local habits (fauna and flora).

“1. The two Parties recognise that the deposits are adjacent to a core area of the Nimba Mountains Biosphere Reserve that is listed as world heritage.

“2. The two Parties will take all necessary measures to preserve and protect the environment and in particular the area listed as world heritage.

“3. The two Parties re-confirm their commitment to adhere to the eighteen recommendations prepared by the World Heritage Committee in December 1993.

“4. In particular the two Parties commit to ensure that international institutions and non-governmental organisations who participated in revising the boundaries of the World Heritage Site take part in preparing the ‘Convention on the Environment between the Investor and the State’. It is agreed that the ‘Environmental Convention’ must be signed before submission of the final feasibility study.

“The international institutions and non-governmental organisations include:

- the World Heritage Centre (UNESCO),
- the United Nations Development Programme (UNDP),
- the United Nations Environment Programme (UNEP),
- the World Conservation Union (IUCN),
- the CEDI, and
- Guinée Ecologie.

“The Centre for the Management of the Environment of the Nimba Mountains (CEGEN), which was created as a result of the above recommendations, will also be invited to prepare the Environmental Convention in its capacity as the governmental agency responsible for overseeing the correct implementation of the Convention between the State and the Investor.

“5. As part of preparing the impact studies for the full range of activities to be conducted within the Mining Project, the Investor commits to follow:

- the legal and regulatory standards in effect in Guinea for protecting the environment, notably the Environmental Legal Code, the Public and Private Property Legal Code, and the Water Legal Code,
- its own standards for protecting the environment, and

- internationally accepted standards by mining companies.

“As indicated in paragraph 4 above, the international institutions and non-governmental organisations concerned with environmental issues at the Nimba Mountains will be consulted when these documents are drafted, and a recognised expert consultant on the topic will be chosen by the Investor and agreed by the State to undertake these studies.

“6. The Investor will not begin the various works and studies at the site until after submitting to Government the impact studies, and after each of these impact studies is approved by the State.”

During and following the PDF B phase, both CEGEN/MMGE and consultants participating in the PDF B-supported activities (most notably Fauna & Flora International) have held discussions with certain partners of the EuroNimba consortium. BHP-Billeteon will be responsible on behalf of EuroNimba for executing and managing all field activities, and including implementing the Environmental Convention and interacting with CEGEN and other partners in the Programme for Conservation of the Biodiversity of the Nimba Mountains through Integrated and Participatory Management.

As one of the largest trans-national and publicly owned mining groups in the world, BHP-Billeteon is keenly aware of environmental and social concerns as they affect their on-site operating environments, their national relations and reputation, and their international reputation and share price. In October 2002, the company released an expanded 2002 Health, Safety, Environment and Community Report outlining its policies and performance related to these topics. This publication states that:

“Wherever we [BHP-Billeteon] operate, we will develop, implement and maintain management systems for health, safety, environment and the community that are consistent with internationally recognised standards and enable us to identify, assess and manage risks to employees, contractors, the environment and communities, ...support the fundamental human rights of employees, contractors and the communities in which we operate, respect the traditional rights of indigenous peoples, care for the environment and value cultural heritage...”

“[W]e are committed to contributing 1 per cent of our pre-tax profit to community programs, based on a three-year rolling average. Our contributions during the [2002 financial] year represented 1.4 per cent of our pre-tax profit, significantly exceeding our target.”

The report specifically mentions biodiversity:

“We recognise that our activities as a resources company may impact on the natural environment, including the diversity of flora, fauna and their habitats. To this end, we require our sites to consider the preservation and conservation of biodiversity in existing and new projects, and also in the closure of the operations.”

With such explicit policies related to biodiversity and local social concerns, and through its public ‘exposure’ via the stock market and relations with international organisations, BHP-Billeteon has expressed its strong desire not to be seen as responsible for the destruction of a world heritage site or globally significant biodiversity by international opinion, and in particular by global environmental organisations and NGOs. Furthermore the President of the Board of EuroNimba, Mr André Papon, stated in November 2002 to MMGE that “Expenses related to the environment are an integral part of production costs, as much as extraction of the ore, its processing and transportation.” For all EuroNimba partners, their corporate practices and reputation/share risk-management are concerns that far surpass the Nimba Mountains; in today’s market, given their exposure and the size of the investors, it is in EuroNimba’s business interests to act responsibly with respect to environment (and social issues too).

Within the context of the UNDP/GEF-supported programme, BHP-Bilteon commits to funding US\$30,000 in the year 2003, as stated in the attached letter from Mr. K. Olivier. This initial contribution would be for actions falling under proposed Activity 1.2.2 “Develop a deeper understanding of the impacts of mining activities, including those related to introduced species.” This contribution would help establish or reconfirm baseline information to be used in the detailed EIA and in developing guidelines for the Environmental Convention.

## **Annex 11. Concerning an International Nimba Foundation and sustainable financing mechanism**

*Objectives and legal bases.* In order to ensure adequate support available to the Nimba Mountains Biosphere Reserve's management structures after the proposed UNDP-GEF programme ends, beyond the contributions of the Guinean Government through its support to CEGEN and the decentralised sectoral agencies working in the Nimba region, it is envisaged to set up a sustainable financing mechanism and an institution responsible for ensuring its effective and efficient management.

The idea of a foundation or similar entity to support management of the Nimba Mountains, at least the portion in Guinea, appeared in the 1990s. The presidential decree of 1995 creating CEGEN mentions this 'foundation':

Article 7 states that "The Centre for the Management of the Environment of the Nimba Mountains is to be assisted by a Foundation to fulfil the international obligations of its mission and receive funds from abroad for its functioning."

Article 52 specifies that "The creation of the Foundation will be the subject of an agreement between UNESCO, represented by the World Heritage Centre, and the Government represented by the Ministry responsible for Environment and the Ministry responsible for Mines, as well as between donors."<sup>10</sup>

The Environmental Management Programme for the Nimba Mountains, prepared in October 1995 by CEGEN and the Ministry of Energy and Environment, proposes that CEGEN "can be assisted by a Foundation to realise its international obligations under its mission." This Programme assigns the Foundation the responsibility "to seek, raise and centralise external funds needed for CEGEN's activities and functioning, to provide needed technical assistance and to strive to strengthen scientific co-operation and CEGEN's capacity."

*The Foundation.* During the PDF B, the need was identified for an entity through which the relevant Guinean authorities, other Guinean stakeholders (scientific and technical institutions, representatives of local authorities and communities, others) and international experts and donors can participate in planning and programming financial resources for the Nimba Mountains. Furthermore the need was cited also for a trustworthy and effective interlocutor with donors of all sorts, including international development agencies, foundations and international NGOs, the private sector, research institutes and others.

Thus the envisaged Foundation will play roles in (i) fund-raising and financial management, (ii) planning, participation and transparency, and (iii) provision of technical assistance to CEGEN. It will be supported presumably by the funds it secures internationally. It is also possible that the Foundation will liaise between CEGEN and local communities for support to sustainable development.

*Characteristics of a sustainable financing mechanism.* During the PDF B, several ideas were explored concerning an eventual sustainable financing mechanism to receive contributions from the Mining Company and others. The design of the financing mechanism(s) will be prepared under project activity 5.4.1 as the post-programme needs are more precisely identified, as will creation of the Foundation. The Guinean Government wants the mechanism to:

?? assure an adequate and long-term source of funds after the presently proposed programme ends;

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<sup>10</sup> Articles 39 and 40 state furthermore that "The Centre is subject to inspection by all bodies and institutions under the control of the State, notably the General Inspectorate of the State. The Accounts Court will supervise its jurisdiction and financial management.

"Funds obtained via international cooperation or private companies, in particular those provided by the Foundation and the Mining Company, will be managed according to the procedures of these agencies."

- ?? accept and manage annual contributions from the Mining Company, as well as other donors, for the conservation of the NMBR's core areas and for compatible development activities in the buffer zone and transition area; and
- ?? channel external funds rapidly, efficiently and effectively to the field.

Whatever the precise solution chosen, it will probably include some sort of endowment and/or sinking fund. However the exact formula remains to be determined when it is clearer what will be: (a) the basic recurrent costs of CEGEN in the post-GEF period, (b) the need for non-recurrent interventions to manage the NMBR, (c) the likely annual contribution of the Mining Company, (d) the willingness of the Mining Company to make a large up-front contribution to capitalise an endowment, and (e) the likelihood of other donors providing funds to either an endowment or for immediate expenditure. GEF Good Practice reports on endowments and other types of financing mechanisms will be carefully analysed when carrying out the evaluation of the needs at the NMBR.

In order to prepare thoughtful proposals for a Foundation and sustainable financing mechanism, international good practice for such institutions will be reviewed and a study will be carried out of the legal context in Guinea for public-interest, non-profit foundations or similar entities, supported by and responsible for a fund based either in Guinea or off-shore. Guinean law already recognises the existence of 'foundations' but the international structure of such an institution could require that it be established to respond to other legal codes, such as the place where the fund is located.

In parallel, the recurrent financial needs for the post-project period will be studied, as well as the possibility to respond to these needs with interest from an endowment, Governmental contributions and additional external contributions. The study will identify the capitalisation levels needed to generate adequate income required under different spending scenarios. Issues and options papers and planning meetings for creating the financing mechanism and associated institution (the Foundation or other) will define the details of both.

*The International Dimension of the Nimba Mountains.* As a tri-national ecosystem shared by Guinea, Liberia and Côte d'Ivoire, effective environmental management of the Nimba Mountains requires a minimum degree of transboundary planning and co-ordination, in particular in the fields of ecological monitoring, information-sharing, and control of threats (fire, poaching, pollution) across international boundaries (see Annex 13). Therefore the design of the Nimba Foundation (or similar) should not limit itself necessarily to the Guinean portion of the massif<sup>11</sup>. This is all the more important given that Côte d'Ivoire is prepared to implement its Framework Protected Area Management Programme (PCGAP), supported by the GEF and World Bank, among others. PCGAP involves creating an Ivoirian Foundation for National Parks and Reserves (IFNPR) that is supported by a fund allowing resources to be channeled to the country's protected areas, including the (Ivoirian) Nimba Strict Nature Reserve (see maps, Annex 15).

Not only should the lessons learned during the preparation of PCGAP, which began in 1995, leading to the creation of the IFNPR, inform the Guinean deliberations on a Foundation and sustainable financing mechanism, but Guinea and Côte d'Ivoire should seek to encourage synergies, minimise duplication and costs, and explore how the tri-national ecosystem can be managed in a coherent fashion, involving Liberia as appropriate<sup>12</sup>.

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<sup>11</sup> However it may be possible to make contributions, administered by the Foundation, to specified activities in a specified country, if the donor so desires.

<sup>12</sup> The tri-national meetings on Nimba (Annex 12) recommended bringing the three countries together to develop a proposal for a funding mechanism to support transboundary actions.

## **ANNEX 12. Tri-National Initiative for Transboundary Environmental Management of the Nimba Mountains**

The biological richness of the Nimba massif has been recognised since the early part of the 20<sup>th</sup> century. In 1999 a group of over 150 experts, led by Conservation International and with the support of the GEF and UNDP, led a conservation priority-setting exercise for the Upper Guinean Forest Ecosystem in which the Nimba region was identified as one of the highest priority sites in all of humid West Africa. According to some, Nimba is the single highest priority. While that is debatable, its importance is uncontested.

The Nimba mountain chain was divided politically about a century ago between three countries - Guinea, Liberia and Côte d'Ivoire – without respect for either its ethnic homogeneity and divisions, or its ecology. The Ivoirian portion of the massif is 'tucked in the belly' of the Guinean part, and together they form the northern 60% or so of the massif. This mountain chain then descends south-westwards into Liberia.

Because nature does not recognise international boundaries, the only rational means to manage the Nimba mountains' natural resources and fabulous biological diversity is to co-ordinate activities internationally. For this reason, for a long time the three countries have wanted to initiate tri-national planning and dialogue for concrete transboundary management of the region's environment. However each of the three countries has its own history and system of government, and its own possibilities and constraints.

In Côte d'Ivoire, the Ivoirian segment of the massif has been a strict nature reserve since 1944, as is the case also for the Guinean portion. Together, these reserves constitute the Mount Nimba World Heritage Site, declared in 1981. Because of the iron mining underway in the Liberian portion of the massif, and because Liberia did not become party to the World Heritage Convention until 2002, the World Heritage Site stopped at the Liberian border. However in Liberia, the forest covering the eastern slopes of the Nimba massif was classified as a national forest, reserved largely for timber production. Since the early 1980s, creation of a strict nature reserve was recommended in Liberia too, a proposal that was under serious consideration in late 2002.

Since the early 1980s, and possibly earlier, discussions have been underway to co-ordinate management of the mountains. Draft international agreements were discussed in the 1980s and one was prepared in 1992 between Guinea and Côte d'Ivoire. However due to mining and political considerations, as well as the lack of resources allocated to such matters, the three countries were never able to make significant progress towards transboundary collaboration until recently. Visits of local field technicians and authorities occurred across international boundaries but they were not enough for comprehensive and effective planning and collaboration to start.

In 2000, the appropriate authorities of the three countries - the Ivoirian Nature Protection Service, CEGEN and the National Environmental Commission of Liberia and the Liberian Forestry Development Authority - agreed a plan to initiate transboundary dialogue and planning on environmental management and conservation of the Nimba mountains with three international environmental NGOs - Fauna & Flora International, BirdLife International and Conservation International. The following concerns of these authorities and NGOs, as well as of other concerned agencies such as the World Bank (Abidjan) and WWF-West African Regional Programmes Office, were incorporated into the final plan:

- ? ? Tri-national collaboration at the field level must be preceded by initiating dialogue in a neutral and technical context, facilitated by one or more independent organisations,
- ? ? What has been lacking for decades has been funds rather than the desire for tri-national dialogue and collaboration,

- ? ? The medium-term objective should be to establish a shared vision and common declaration for the Nimba massif, as well as a series of management and co-ordination principles to harmonise initiatives which are getting started on different sides of the borders, and
- ? ? The recent histories of the three countries are all quite different, the countries have different development plans and programmes for their portions of the mountain chain, and their conservation initiatives are at different stages of development. Thus all 3 countries plus donors and NGOs active at Nimba agree that it is not presently advisable to join the three countries together in a tri-national project. However the best way to ensure transboundary synergies between three countries for the time being is through pursuing national-level initiatives and launching a process of harmonising management across international boundaries and undertaking limited collaborative activities at the field level as part of national initiatives.

In 2001 FFI secured approximately US\$45,000 from the World Heritage Fund of the World Heritage Centre (UNESCO), the head office of Rio Tinto Mining Plc. and the Netherlands Committee for IUCN for a series of two tri-national workshops and background studies, the overall goal of which was to catalyse transboundary dialogue, planning and field activities for environmental management of the Nimba Mountains. Specific objectives of the process were:

- ?? to establish contact between technical staff from Guinea, Côte d'Ivoire and Liberia responsible for managing the Nimba Mountains specifically, if relevant, or protected areas, wildlife and forests generally, and to establish contact between these technicians and local community representatives and relevant politicians,
- ?? to share information, identify information gaps and research needs, and identify incongruities and the potential for harmonisation and collaboration in management practices of the area,
- ?? to explore practical means of international co-operation for the conservation of the Nimba Mountains and development of a common strategy for managing them,
- ?? to establish a long-term forum for dialogue and joint planning between the three nations, if possible, and
- ?? to involve and motivate the governmental and corporate sectors as well as local inhabitants, who are the major stakeholders in the overall scheme.

Technical-level participants, directly responsible for management of the Nimba massif, were requested to participate in the two initial workshops to devise technical recommendations with the understanding that these would filter up in the three governmental hierarchies to political levels where they will clearly show the potential for and benefits of transboundary collaboration.

The first workshop took place in Man, Côte d'Ivoire, in September 2001, during which each country delegation presented its portion of the massif to the others. Next participants broke into tri-national working groups in which they analysed the problems facing the Nimba mountains zone. They concluded by proposing possible solutions leading to improved environmental management of the Nimba Mountains, distinguishing between activities which must be undertaken on an individual country basis and those which require an international response.

On the basis of the problem analysis done at Man, focused studies and reports were prepared in the interval between the two workshops.

The second workshop was held in N'Zérékoré (Guinea) in February 2002. After each country provided updates on developments in conservation programmes related to Nimba, which were considerable, participants broke into multi-national working groups to discuss those environmental problems requiring international collaboration. The following agenda items were addressed:

- Ecological monitoring,

- Transboundary conservation management of the Massif,
- Transboundary management of the Déré-Tiapleu forest block, and
- Identification of necessary actions to undertake after the N'Zérékoré meeting.

Relatively detailed prioritised plans were prepared for each of the above topics, and responsibilities were assigned for following up on the recommendations of the workshop. A committee made up of the contact agency from each country and the international NGOs who facilitated the workshops was formed to oversee continuation of the process, with FFI responsible for organising activities. The results of both workshops are available in French and English on FFI's website ([www.fauna-flora.org](http://www.fauna-flora.org)). In addition, the reports contain detailed background information on each country's part of the massif, as well as representative ecological monitoring protocols followed in each country which could serve as models for harmonising monitoring tri-nationally.

Participants also prepared the Declaration of N'Zérékoré (follows below) on transboundary environmental collaboration at the Nimba Mountains. A working group furthermore prepared a draft tri-national framework agreement to provide a formal legal context for transboundary collaboration in environmental management of the Nimba Mountains. As of late 2002, this was under review in all three countries.

The process of transboundary collaboration was launched without really knowing where it would lead. However the momentum created in the initial year is being integrated into each country's management programme for its part of the Nimba massif. With support from each of the national initiatives, collaboration will develop organically, starting at the field-level, and freed as much as possible from political constraints. All three countries agree this is presently the preferred way forward for maximum conservation impact and synergies in the field, and to build political support. Its effectiveness will be monitored as part of the Guinean programme's monitoring and evaluation.

**Annex 12 -A**  
**DECLARATION OF N'ZEREKORE ON THE TRI-NATIONAL**  
**MANAGEMENT OF THE NIMBA MOUNTAINS**

The participants of the tri-national workshop of N'zérékoré on the sustainable management of the Nimba Mountains, held from 12 to 15 February 2002 in N'zérékoré on the topic "Tri-national programme for the integrated conservation of the Nimba Mountains", noting:

- the Convention on Biological Diversity,
- the authoritative but not legally binding Declaration of Principle on a world-wide consensus on the management, conservation and ecologically viable utilisation of all types of forest, adopted during the United Nations Convention on Environment and Development in June 1992 in Rio de Janeiro, known as the Forests Declaration,
- the Declaration of Paris of the Tenth World Forest Congress (September 1991),
- the Forest Declaration of Delhi (Forestry Forum for Developing Countries, September 1993),
- the inclusion of the Mount Nimba World Heritage Site on the list of World Heritage Sites in Danger by the World Heritage Committee during its meeting held in Santa Fe (USA),
- the Declaration of Seville (1995) strongly emphasising developing international co-operation for the effective management of transboundary biosphere reserves,
- the need to strengthen cordial relations and a climate of peace and harmony between the three nations concerned with the Nimba Massif, in accordance with the UNESCO programme on the Culture of Peace,

Publish herewith this Declaration of N'zérékoré on the tri-national management of the Nimba Mountains, whose principal objectives concern the following points :

- Establishing contact on the one hand between the technical teams in Côte d'Ivoire, Guinea and Liberia responsible for the management of the Nimba Mountains, and on the other hand between these technicians and local communities,
- Sharing information, identifying research needs and identifying gaps and possibilities with a view to develop practical means for international co-operation for the conservation of the Nimba Mountains and to prepare a common management strategy,
- Involving and motivating the governmental and private sectors, as well as local communities, who are the principal stakeholders in any management masterplan for the Nimba Mountains, and to create a tri-national biosphere reserve of the Mountains.

This Declaration concerning the Nimba Mountains follows from the afore-mentioned Declarations. To this end, the participants propose :

1. that the relevant nations, namely the Côte d'Ivoire, Guinea and Liberia, support natural resources conservation actions through co-ordination and harmonisation of their interventions in their Nimba Mountains conservation programmes and through mobilisation of supplementary financing from donors;
2. that the nations include the development of socio-economic and scientific infrastructure for the Nimba Mountains in national development priorities;

3. that the nations prioritise, encourage and create the conditions for partnerships with international organisations for improved preservation of natural resources;
4. the participation of local populations, and in particular women and youth, in planning, utilisation and management of the Nimba Mountains, which is today an incontrovertible social, cultural, ecological and economic reality;
5. that the international community and NGOs become more involved in projects supporting the protected areas by providing increased and permanent support to national and tri-national institutions;
6. setting up a tri-national steering mechanism for undertaking actions for the sustainable conservation of the Massif;
7. the submission for approval of a draft framework agreement to the respective governments.

The Centre for the Management of the Environment of Mount Nimba (CEGEN), the Directorate for Nature Protection (DPN), and the National Commission for the Environment (NECOLIB) will be responsible for carrying out the activities in points 6 and 7 of this Declaration in Guinea, Côte d'Ivoire and Liberia, respectively.

Prepared in N'zérékoré, 15<sup>th</sup> February 2002

### **Annex 13: Institutional capacity of CEGEN and plans to strengthen it**

*Introduction.* One of the recommendations emanating from the Nimba Mountains Pilot Project was to create an agency responsible for the management of the Nimba Mountains Biosphere Reserve, which covers a wide spectrum of responsibilities including all environmental management and conservation, rural development actions and inter-sectoral co-ordination. This recommendation was acted upon in Presidential Decree 95/007/PRG/SGG creating the Centre for the Management of the Environment of the Nimba Mountains (CEGEN), which assigns to it the following objectives:

“ARTICLE 3: The mission of the Centre for the Management of the Environment of the Nimba Mountains is the co-ordination and promotion of activities to protect the World Heritage Site and the rational use [*valorisation*] of the biological resources of the Nimba Mountain chain and its area of influence (temporary transition zone).

“To this end, it is responsible specifically for:

- ensuring active protection and scientific monitoring of the core areas of the biosphere reserve (notably the World Heritage Site) and strictly controlling all activities in the buffer zone;
- strengthening and co-ordinating patrol and guard systems;
- ensuring monitoring of the state of recipient environments [*milieux récepteurs*] (air, water, soils, sub-soil, etc.) and making technical reports and other studies available to concerned national agencies;
- overseeing the environmental impact study for the project to mine the iron ore deposits and the correct application of the environmental convention between Government and the Mining Company;
- providing information on requests for new projects undertaken in the areas of influence of Nimba for which it must be consulted;
- carrying out scientific and technical studies required for monitoring the evolution of societal practices, land-use, wildlife populations, botanical associations and populations, climate, hydrology, water quality and soil property changes;
- carrying out, in collaboration with the relevant government agencies, studies and control measures for the implementation of the integrated development master-plan of Nimba’s area of influence (agriculture, forestry, animal husbandry, local collective infrastructures, road network, etc.);
- promoting technical assistance, notably in the areas of demonstration trials and extension work;
- contributing to preparing a framework for discovery tourism, bearing in mind the requirements of mining activities and protection of the core areas of the biosphere reserve;
- maintaining close planning and consultation with the company responsible for mining the iron ore deposits;
- informing the international community and strengthening scientific and technical co-operation in different topics related to natural resources management for the Nimba Mountains.

“ARTICLE 4: It is envisaged that the Centre will strive to reconcile the objectives of its mission with the national needs to exploit the iron ore deposits of the Nimba Mountains.”

The CEGEN was created a semi-independent agency attached to the Ministry responsible for environment, which currently is the Ministry of Mines, Geology and Environment. The Decree specified the bodies and divisions within the agency, while its organigram was later defined in a supporting law.

*Preparation of an institutional strengthening plan.* The PDF B made specific mention of the need to strengthen CEGEN’s institutional capacity to ensure success of the programme and the sustainability of its accomplishments in the post- programme period. The PDF B therefore supported developing a plan targeting the many aspects included under ‘institutional capacity-building.’ These are grouped together mostly in Component 5 ‘Strengthened capacity of the Reserve’s management structures, in particular of CEGEN’.

The process consisted of assessing CEGEN’s current strengths and weaknesses, and then of identifying the capacity needed by CEGEN to fulfil its mandate as expressed in principle in Decree 95/007/PRG/SGG and in detail in the present 9-year programme. This included an assessment of needed staff, in-house skills, information needs, institutional links, material resources, legal and policy context and means to achieve financial security.

The staffing and skills assessments were written up in two detailed reports (see Ledant 2001a, Ledant 2001b, under the auspices of FFI). They identified CEGEN’s staffing needs, especially in light of the currently proposed programme, and made precise recommendations for adjusting CEGEN’s organisational structure and staffing, and for recruiting missing staff. Specifically CEGEN’s current staffing, including personnel on leave, consists of 16 persons. By recruiting 50 additional staff, 33 of whom would be rangers, the total would come to 66, which is recommended for CEGEN (Ledant 2001b). The recommended break-down of this staff according to level would evolve from programme start to closure as follows:

	Year 0	end-Year 9
Senior and mid-level technical staff	11	24
Rangers	0	33
Administrative and lower-level technical personnel other than rangers	5	9
<b>TOTALS</b>	<b>16</b>	<b>66</b>

These recommendations will be addressed as much as possible in Activity 5.2.1 ‘Amend and complete the legal texts related to CEGEN’. Likewise the programme’s implementation arrangements will ensure that CEGEN has the personnel available to execute the programme and that it is fully staffed by the end of the 9-year programme.

Weaknesses of CEGEN were observed in many areas. These included inadequate staffing, inadequate skills of existing staff, unmotivated staff, duplication of responsibilities between certain posts in CEGEN’s organigram and lack of posts to address other needs, duplication or at least confusion of roles between CEGEN and other Government agencies working in the Reserve<sup>13</sup>, lack of synergies between

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<sup>13</sup> The reports define the extent of CEGEN’s responsibilities in relation to local government’s and sectoral agencies’ (Directorates of Water & Forests, Livestock, Health, Agriculture, etc.) as follows:

“The fundamental role of CEGEN is to serve as manager for the Biosphere Reserve, which is zoned into three areas: the core areas, the buffer zone and the transition area. CEGEN is responsible for this geographical area to the extent that it constitutes a nature reserve, thus for nature protection, in principle, with the effect that CEGEN is considered to substitute beither local governmental authorities nor institutions responsible for economic and social development.

“CEGEN’s responsibilities can be divided into the following:

CEGEN and other sectoral agencies and no effective means by which to improve synergies, lack of acceptance of the role and authority of CEGEN in the Reserve, an incomplete ecological monitoring system that does not respond to many of the agency's data needs, weak inability of CEGEN to use ecological information, an incomplete legal framework in which CEGEN is supposed to operate, inadequate operating resources and infrastructure leading to lack of presence in the field, and unfamiliarity with the bottom-up participatory approaches needed to address the problems of the Biosphere Reserve.

After presenting what a fully strengthened CEGEN would look like, capable of fulfilling its mission, the Ledant/FFI reports went on to design a series of 27 training modules for specific skills needed by CEGEN, recommended specific staff from the revised organisational structure to be trained in each topic, and suggested priorities for training given that financial resources and CEGEN staff time are limited. On the basis of indicative monthly costs for *in situ* training (i.e. learning-by-doing, on-the-job training at the Reserve) and *ex situ* training (formal courses, theoretical studies, classroom training), overall costs were determined for different budget scenarios, which informed the budgeting of the proposed Activity 5.2.1 'Implement a staff training programme.' This programme can always be expanded with additional (non-GEF) donor support. The reports furthermore envisage for CEGEN to have a resource centre with training and reference materials available for individual study and consultation, and recommended that CEGEN staff be required to spend a modest portion of their time pursuing individual study.

The following table shows the training topics envisaged, main objectives (defined as 'Personnel able to \_\_\_'), targeted staff positions and priorities assigned to each topic (A = highest priority, B = medium priority, C = lower priority but still important). The topics have been organised below into 8 thematic groups.

<i>Topic</i>	<i>Main objective – Staff person able to _____</i>	<i>Targeted staff positions</i>	<i>Priority</i>
<i>Biosphere Reserve management</i>			
Environment and sustainable development policy	Define and implement coherent policy related to environmental management in partnership with relevant agencies	Director, section heads	A
Integrating conservation and	Propose development activities	Director, head of the	A

- In the Core Areas, in particular in the Nimba Mountains which are subject to requirements from the international World Heritage Convention, CEGEN, supported and advised by UNESCO, has or should be granted authority over all other local actors in order to ensure protection and monitoring and to implement all measures in support of biodiversity conservation.
- In the Buffer Zone, CEGEN, the RDCs and other relevant institutions are co-managers. CEGEN negotiates the guidelines and eventual restrictions aimed at protecting the core areas (or the species visiting the buffer zone that must be protected) accompanied by direct or indirect compensation. CEGEN furthermore proposes, encourages and supports interventions that incite behaviour with a favourable impact on the Core Areas and biodiversity.
- In the Transition Area, CEGEN will play the role of environmental monitor, advisor, proponent (including of specific environmental standards/guidelines), and implementer/ overseer of the Environmental Protection and Utilisation Code. Because the Transition Area corresponds to the Upper Cavally River Basin, CEGEN will pay particular attention to protecting the ecological and hydrological integrity of the river which will benefit the ecosystems influenced by it, including the Déré Forest, and will reduce transboundary impacts in Côte d'Ivoire."

<i>Topic</i>	<i>Main objective – Staff person able to ____</i>	<i>Targeted staff positions</i>	<i>Priority</i>
<i>Biosphere Reserve management</i>			
development	beneficial to the environment and to conservation	Regional Development Section	
Protected area management	Prepare, adapt, monitor, implement management plans with participation of all stakeholders	Director, assistant director, section heads	A
<i>Institutional and programme management</i>			
Programme planning and implementation	Prepare and execute a plan, a programme or a project	Director, assistant director, section heads	A
Institutional management	Manage a budget and funds correctly, manage physical and human resources, manage internal and external relations, fund-raising	Director, assistant director	A
Monitoring and evaluation	Define and track a coherent, powerful and feasible system of objectively verifiable indicators Implement an internal institutional monitoring and self-improvement system	Assistant director, Heads of the Environment & Protection and Research & Monitoring Sections, Water monitoring technician	B
<i>Ecology, ecological and environmental impact monitoring</i>			
Ecology and biodiversity	Orientate ones' actions to be supportive of biodiversity Contribute to management planning by proposing relevant measures for biodiversity conservation	Director, section heads, personnel responsible for environmental education	B
Ecological monitoring systems	Manage and utilise an on-going environmental monitoring system	Personnel in charge of ecological monitoring (head of Research and Monitoring Section)	A
Ecological data collection	Collect data accurately	Rangers	A
Impact studies	Monitor environmental studies of the mine, oversee their correct execution and implementation of their recommendations Monitor the impacts of all other projects, including agricultural ones	Head of Environment Section	C
<i>The Nimba Mountains Conservation Programme, information, communications and tourism</i>			
The Nimba Mountains and their Management and Conservation Programme	Understand and communicate effectively the objectives of the different parts of the NMBR and its long-term management programme	All members of CEGEN and partner agencies	A
Communication, information, education	Prepare and carry out information, awareness and education programmes	Head of Regional Development Section	B
Receiving and guiding tourists	Receive and guide visitors in the Reserve	Rangers (selected ones)	C
<i>Rural development, participatory approaches, intervention strategies</i>			

<i>Topic</i>	<i>Main objective – Staff person able to _____</i>	<i>Targeted staff positions</i>	<i>Priority</i>
<i>Biosphere Reserve management</i>			
Rural development	Propose development interventions that are favourable to the environment and to conservation Propose relevant options related to micro-finance/credit, participation, gender equity, landscape management, rural collectives Collaborate with external specialists in rural development	Head of Regional Development Section	B
Participatory approaches	Work in constructive, partnership-orientated ways	Director, assistant director, section heads, technical staff responsible for external relations	A
Intervention and support strategies	Choose appropriate methods to support rural development groups/collectives Encourage and support development approaches consistent with sustainable development and conservation objectives	Director and section heads	A
Conflict management and negotiations	Prevent conflicts Facilitate conflict resolution Negotiate impartially with partners Engage partners constructively and collaboratively	Director, assistant director, section heads, technical staff responsible for external relations	B
Agriculture-forests-biodiversity	Identify agricultural and silvicultural techniques that are economical in terms of resources and favourable to biodiversity in order to propose pertinent technical development options and to evaluate the impacts of agricultural and forestry projects	Head of Regional Development Section Specialist to be recruited (forester)	B
Small animal husbandry	Analyse technical and economic constraints to small animal husbandry Orientate efforts to reduce hunting pressures and local protein deficiency	Staff person in charge of animal husbandry	B
<i>Protected area patrols and law enforcement</i>			
Organising patrols/law enforcement	Supervise rangers	Staff person overseeing rangers	B
Patrols	Carry out patrols, handle law infractions	Rangers	B
<i>Administrative management, linguistic and computer skills; independent study skills</i>			
Basic computer skills	Execute computer-based accounting	Administrative and	A

<i>Topic</i>	<i>Main objective – Staff person able to ____</i>	<i>Targeted staff positions</i>	<i>Priority</i>
<i>Biosphere Reserve management</i>			
	Use a computer to prepare reports Manage quantitative data	technical personnel (except for the one already trained person)	
GIS and databases	Manage a geographical information system (GIS) and database	Specialised environmental monitoring personnel	A
English	Communicate internationally, use English-language scientific documents, communicate with refugees, collaborate with Liberians	Any relevant staff person	C
Use and management of supplies and physical capital (equipment, infrastructure, etc.)	Utilise and care for physical capital correctly, manage supply stocks	To be determined during programme implementation	B
Independent study	Utilise a documentation centre, utilise the internet, develop effective work/study habits, take advantage of available opportunities to continue one's training independently	All members of CEGEN and relevant partner agency staff	A
<i>Legal and policy skills</i>			
Legal and institutional frameworks	Propose improvements to CEGEN's legal and institutional frameworks Propose relevant actions/ amendments to existing laws and institutions	Director and section heads	B

With respect to other institutional strengthening needs, the ZOPP workshop participants, and the Ledant/FFI reports to a more limited extent, defined CEGEN's needs related to inter-institutional arrangements, ecological information, material resources (infrastructure, equipment, recurrent supplies, etc.), legal/policy gaps and post-project financial security. The needs are summarised in the problem tree (Annex 1) and addressed in the Objectives, Results and Activities of the logical framework analysis (Annex 2). The budget details CEGEN's needs in terms of infrastructure, equipment and supplies, while Activity 5.4.1 and Annex 11 explain in detail the issues surrounding and proposed solutions to post-project financial security.

**Annex 14: Endorsement letter(see separate file)**

Annex 15: Map of the project site



## Annex 16: Acronyms

AFD	:	French Development Agency
AGIR	:	Support Programme for Integrated Resource Management
AHSP	:	Animal Husbandry Support Programme
AIDS	:	Acquired Immune-Deficiency Syndrome
AMCL	:	African Mining Consortium Limited
BRGM	:	<i>Bureau de recherches géologiques et minière</i> (Geological and Mining Research Company)
CIDA	:	Canadian Agency for Development International
BCEOM	:	Central Office for Overseas Studies
CBD	:	Convention on Biological Diversity
CEDI	:	Collective for Environment and International Development
CEGEN	:	Centre for the Management of the Environment of the Nimba Mountains
CI	:	Conservation International
CITIES	:	Convention on the International Trade in Endangered Species
CRBREIG	:	Cane Rat Breeding, Research and Extension Institute of Guinea
CTA	:	Chief Technical Assistant
ECOFAC	:	Programme for the Conservation of Forested Ecosystems in Central Africa
EIA	:	Environmental Impact Assessment
ERIB	:	Environmental Research Institute of Bossou
FGEF	:	French Global Environment Facility
FFI	:	Fauna & Flora International
FIBA	:	French Institute for Black Africa
FRMP	:	Forest Resources Management Project
GDP	:	Gross Domestic Product
GEF	:	Global Environment Facility
GIS	:	Geographical Information System
GNP	:	Gross National Product
GoG	:	Government of Guinea
GSSIDSAH	:	Guinean Society for Support to Integrated Development of Small Animal Husbandry
GTZ	:	German Technical Co-operation
HIV	:	Human Immuno-deficiency Virus
IEC	:	Information-Education-Communications
IFAD	:	International Fund for Agricultural Development
INFPR	:	Ivoirian Foundation for National Parks and Reserves
IMF	:	International Monetary Fund
IUCN	:	World Conservation Union
KfW	:	German Financial Co-operation Agency
LADP	:	Letter of Agricultural Development Policy
LISP	:	Local Initiatives Support Project
M&E	:	Monitoring and Evaluation
MAB	:	Man and the Biosphere
MMGE	:	Ministry of Mines, Geology and Environment
MIFERGUI	:	the Guinean Iron Mining Company
MSF	:	Doctors without Borders

Mt	:	Megatonne
NC	:	National Co-ordinator
NDA	:	National Directorate for Agriculture
NDE	:	National Directorate for Environment
NDH	:	National Directorate for Health
NDL	:	National Directorate for Livestock
NDSTR	:	National Directorate for Scientific and Technical Research
NDWF	:	National Directorate for Water and Forests
NEAP	:	National Environmental Action Plan
NGO	:	Non-Governmental Organisation
NIMCO	:	Nimba Mining Company
NMBR	:	Nimba Mountains Biosphere Reserve
NMPP	:	Nimba Mountains Pilot Project
NPRI	:	National Project for Rural Infrastructure
NRMP	:	Natural Resources Management Project
NSSWS	:	National Support Service to Water Sources
OP	:	Operational Programme (of the GEF)
OVI	:	Objectively Verifiable Indicator
PCGAP:	:	Framework Project for the Management of Protected Areas in Côte d'Ivoire
PDF-B	:	Project Development Facility - Block B grant
PDIF/FG	:	Project for the Development of Irrigated Rice in Forested Guinea
PDSFI/FG	:	Project for the Development of Small-scale Forest Inhabitants in Forested Guinea
RAHFFG	:	Regional Animal Husbandry Federation of Forested Guinea
RDC	:	Rural Development Commune
RRMP	:	Rural Resources Management Project
SMFG	:	<i>Société des Mines de fer de Guinée</i> (Guinean Iron Mines Company)
SOGUIPAH	:	Palm Oil and Rubber Company of Guinea
UNCCD	:	United Nations Conference on Commerce and Development
UNDP	:	United Nations Development Programme
UNECA	:	United Nations Economic Conference on Africa
UNEP	:	United Nations Environment Programme
UNESCO	:	United Nations Educational, Scientific and Cultural Organisation
UNF	:	United Nations Foundation
UNHCR	:	United Nations High Commission for Refugees
UNOPS	:	United Nations Operational Service
USAID	:	United States Agency for International Development
UVIDoZ	:	Union of Volunteers for the Integrated Development of Zantompézo
VCSP	:	Village Community Support Programme
WAPSE	:	West African Priority-Setting Exercise
WFP	:	World Food Program
WWF	:	World-Wide Fund for Nature
ZOPP	:	Ziel Orientierte Project Planung (German abbreviation for Planning of Interventions by Objective)

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## **GOVERNMENT OF THE REPUBLIC OF GUINEA**

### **United Nations Development Programme**

**Other Partners:** Global Environment Facility, World Bank, UNESCO/World Heritage Centre, German Technical Co-operation (GTZ), European Union (PACV), French Development Agency, FAO/International Fund for Agricultural Development (IFAD), Japan, Fauna & Flora International (FFI)

### **CONSERVATION OF THE BIODIVERSITY OF THE NIMBA MOUNTAINS THROUGH INTEGRATED AND PARTICIPATORY MANAGEMENT**

This programme will contribute to the protection of the biological diversity of the Nimba Mountains Biosphere Reserve, including the World Heritage Site (officially on the list of Sites in Danger since 1992). The proposed programme will rely on integrated ecosystem management through participatory approaches according to the philosophy of a biosphere reserve which aims at conserving globally important biodiversity, and harmonising landscape-level sustainable use of natural resources and sustainable development. The programme will enhance mainstreaming of biodiversity conservation into local and national level sustainable development planning. The programme will also contribute to the development of a national system of protected areas. The programme consists of : (1) support to the protection of the Biosphere Reserve's three core areas; (2) intensifying agriculture and increasing agricultural income in the buffer zone and transition area of the Reserve; (3) promoting culturally appropriate animal husbandry and sustainable use of wild fauna; (4) improving local health and hygiene conditions, including by promoting complementarity between 'modern' and traditional medicines, and sustainable use of traditional medicinal plants; and (5) strengthening the management authority for the Biosphere Reserve - CEGEN - as well as inter-institutional co-ordination & planning mechanisms for CEGEN and national partners including sectoral line agencies, rural development programmes, and the iron ore mining companies.

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## ACRONYMS

AFD	:	French Development Agency
AGADEME	:	Guinean Society for Support to Integrated Development of Small Animal Husbandry
AGIR	:	Support Programme for Integrated Resource Management
AHSP	:	Animal Husbandry Support Programme
APR	:	Annual project report
CCA	:	Common Country Assessment
CIDA	:	Canadian Agency for Development International
CEGEN	:	Centre for the Management of the Environment of the Nimba Mountains
CI	:	Conservation International
CITES	:	Convention on the International Trade in Endangered Species
CNE	:	National Environmental Council
CO	:	Country office (of UNDP)
CRBREIG	:	Cane Rat Breeding, Research and Extension Institute of Guinea
EIA	:	Environmental Impact Assessment
ERIB	:	Environmental Research Institute of Bossou
FAO	:	Food and Agricultural Organisation of the United Nations
FFEM	:	French Global Environment Facility
FFI	:	Fauna & Flora International
GEF	:	Global Environment Facility
GIS	:	Geographical Information System
GNP	:	Gross National Product
GTZ	:	German Technical Co-operation
IEC	:	Information-Education-Communications
IFAD	:	International Fund for Agricultural Development
IFAN	:	French Institute for Black Africa
IR	:	Inception report
IUCN	:	World Conservation Union
KfW	:	German Financial Co-operation Agency
LADP	:	Letter of Agricultural Development Policy
M&E	:	Monitoring and Evaluation
MAB	:	Man and the Biosphere
METT	:	Management Effectiveness Tracking Tool for protected areas
MIFERGUI	:	the Guinean Iron Mining Company
MTE	:	Mid-term evaluation
NC	:	National Co-ordinator
NDA	:	National Directorate for Agriculture
NDE	:	National Directorate for Environment
NDH	:	National Directorate for Health
NDL	:	National Directorate for Livestock
NDSTR	:	National Directorate for Scientific and Technical Research
NDWF	:	National Directorate for Water and Forests
NEAP	:	National Environmental Action Plan
NEX	:	National execution (a UNDP implementing arrangement)
NGO	:	Non-Governmental Organisation
NMBR	:	Nimba Mountains Biosphere Reserve
NPA	:	National project administrator
NTFP	:	Non-timber forest product

PACV	:	Village Community Support Programme
PDF-B	:	Project Development Facility - Block B grant
PDPEF/GF	:	Project for the Development of Small-scale Forest Inhabitants in Forested Guinea
PDSFI	:	Project for the Development of Small-scale Forest Inhabitants in Forested Guinea
PIR	:	Project implementation review
PPNM	:	Pilot Project for the Nimba Mountains
PROGEFOR	:	Forest Resources Management Project
PRSP	:	Poverty reduction strategy paper
RDC	:	Rural Development Commune
RRMP	:	Rural Resources Management Project
TOR	:	Terms of reference
TPR	:	Tripartite review
TTR	:	Terminal tripartite review
UNDAF	:	United Nations Development Assistance Framework
UNDP	:	United Nations Development Programme
UNESCO	:	United Nations Educational, Scientific and Cultural Organisation
UNHCR	:	United Nations High Commission for Refugees
UNV	:	United Nations Volunteer
USAID	:	United States Agency for International Development
UVIDoZ	:	Union of Volunteers for the Integrated Development of Zantompíezo
WFP	:	World Food Program
WWF	:	World-Wide Fund for Nature
ZOPP	:	Ziel Orientierte Project Planung (German abbreviation for Planning of Interventions by Objective)

## SECTION I: PROGRAMME NARRATIVE

### Part 1. Situation Analysis

#### 1.1 Biophysical setting

1. The Nimba Mountains Biosphere Reserve (NMBR) extends over 145,200 ha and corresponds to the Guinean portion of the Cavally River Basin (Upper Cavally River Basin). Following the classic biosphere reserve model, whose objective is to integrate conservation of globally significant biological resources with human activity using an integrated, participatory approach, the NMBR is zoned into three land-use categories, namely a transition area (88,280 ha) where land uses are monitored, a buffer zone where land-uses are strictly controlled (35,140 ha) and a cluster of three strictly protected core areas: the Bossou Chimpanzee Hills ecosystem (320 ha), the Déré Forest (8,920 ha) and the Guinean section of the Nimba mountain range that is a World Heritage Site (12,540 ha). This last area is contiguous with Côte d'Ivoire and Liberia (see Annex 12 – Project brief approved by the GEF Council – the map of the region (Annex 15 to the brief) as well as Annex 8 to the brief for details description of the programme site).
2. The ecosystems of the NMBR are home to about 85% of the species that comprise the biological diversity of Guinea, which boasts 2,835 animal species including 107 mammals, 72 bird species, 58 reptile species, 45 amphibious species, 38 fish species, 38 mollusc species, 2408 insect species, 31 myriapod species, 17 scorpion species, 18 acarid species, 17 species of daddy long-legs and 46 species of annelids (Bangoura, 2001). Among these are high-altitude species living in areas characterized by average temperatures at least 6°C below those of surrounding lowlands, and a rigorous dry season followed by a rainy season with constant high humidity. The Déré Forest contains climax vegetation types of great botanical diversity that have been relatively well preserved for a long time (Von Droste *et al.*, 1993). In the NMBR one finds many rare plant and animal species that are endemic or have almost vanished from the Upper Guinean Forest Ecosystem due to forest clearance and hunting, and which have been conserved in the Reserve because of its mountainous nature and, in places, lateritic soils<sup>1</sup>. This is the case for the Nimba otter-shrew (*Micropotamogale lamottei*), the western chimpanzee (*Pan troglodytes verus*) and the viviparous toad (*Nectophrynoides occidentalis*), which are all on the IUCN Red List. This last species, which lives tucked away in clay openings in the rock during the dry season, is a rare case of adaptation to the convex summit of the Nimba Massif, which lacks any year-round sources of water. The chimpanzees use stone tools and, according to oral tradition, live in harmony with the indigenous people of Bossou (the Manons), who consider them as sacred. Despite forest clearance and human population growth, the population of chimpanzees has increased to 27 individuals, as of November 2001.
3. The Nimba Mountain Range is also unique for its beauty and unusual landscapes. It has a highly contrasting set of climatic influences due to a confluence of factors including geographic location, altitude and orientation, which are critical elements shaping climatic conditions. All of these factors and many others explain the successive classification of the Nimba range as a Strict Nature Reserve in 1944, a Biosphere Reserve in 1980 and a World Heritage Site in 1981. Annex 8 of the Project brief (Annex 12 of this ProDoc) gives full details on the environmental context of the Nimba Mountains Biosphere Reserve.
4. In addition, the biological diversity of the Nimba region in the plains, hillsides and forests, provides local populations with food, energy, water, medicine, shelter, agricultural land, oxygen, etc. It is considered the resource that can stimulate economic growth and guarantee the welfare of local people.

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<sup>1</sup> The GEF/UNDP project “Conservation Priority-Setting for the Upper Guinea Forest Ecosystem, West Africa” identified the Nimba Mountain complex as one of the highest priorities for conservation in the region.

## 1.2 Economic context and anthropogenic pressures in the Upper Cavally Basin.

5. In 1984, at the end of the First Republic, Guinea opted for a development model based upon liberal economic policy. As a result of this policy, several economic trends took shape, including the formation of farmer co-operatives/groupings, reforms specifying land rights, readjustment of prices, those of agricultural products in particular, a revival of agricultural research, an increase in agricultural yields, collaborative management of biodiversity resources, improvement of sanitary conditions and poverty reduction (Letter of Agricultural Development Policy, 1997; Strategy for Poverty Reduction, 2000; Guinea, Vision 2010). In 1998, the Guinea's debt represented 102% of GNP and its debt-servicing ratio was 19.5% of exports of goods and services (UNDP, 2000). Thus a large portion of the country's budgetary resources and foreign exchange goes directly to servicing the debt. In order to maintain, diversify and increase its sources of hard currency, the Guinean government envisages extraction of the rich iron deposits of the Nimba and Simandou Mountains.
6. Iron mining in the Nimba Mountains could bring social benefits at the national level as well as at the local level by providing direct and indirect employment, bringing improvements in infrastructure and social services, and having a positive effect on local and regional governance (see paragraph 9 of Annex 12 – GEF project brief).
7. Poverty persists in the Basin, where inhabitants live dispersed in nearly 100 villages. In 1992 the estimated population was 59,000 inhabitants; the average density being approximately 97 inhabitants/km<sup>2</sup> in the zone. This is in the context of areas of habitable land versus areas unsuited to cultivation such as the lateritic savannahs and the Reserve's core areas (Pascual, 1993; Dore, 2001). High infant mortality plagues the region, due to malnutrition and insufficient caloric intake as well as to kwashiorkor, measles, tetanus, yellow fever, malaria, whooping cough, diarrhoea, and meningitis. Safe water supply sources are inadequate and prophylactic and hygiene services are insufficient, underscoring the need to maintain healthy vegetative cover in the upper watersheds of rivers supplying the area, especially of the World Heritage Site. Access to education is inadequate and discriminatory, favouring boys over girls.
8. In spite of the preceding, population growth in the Basin is high, about 4.1% per year, a rate higher than the national average of 3.1%, due mainly to in-migration. The significant agricultural potential of the area, with more than 50,000 ha of arable land, high average rainfall (>2000 mm per year), along with commercial forestry activities and the prospect of iron mining, have sparked the influx of large numbers of immigrants from sahelo-sudanese regions, most of whom are settled. Between 1990 and 1997, the wars in Liberia and Sierra Leone displaced approximately 40,000 refugees into the Upper Cavally Basin, some of whom still reside there.
9. The indigenous peoples of the NMBR are the Manons and Konons, living mostly in the west and south of the Reserve along the Liberian border, and in the north and east of the Reserve along the Ivorian border, respectively (see paragraph 12 of Annex 12 – GEF project brief).
10. Generally speaking, three principal internal variables characterize the evolution of the Upper Cavally Basin's economy. First is an increasing informal sector, particularly subsistence activities which directly impact natural resources. 80% of the resident population depends on agricultural production (see paragraph 13 of Annex 12 – GEF project brief).
11. The second and third variables are trade with Côte d'Ivoire, and socio-economic networks within Guinea based on kinship, ethnicity or religion. Commercial exchanges are significant in commodities/items such as coffee, cola nut, palm oil and various small industry products, etc.

12. A closer look at local production systems shows that traditional food crop cultivation is practised on plains and hillsides by clearing forest lands, cultivating fertility declines and then letting the land lie fallow for the fertility to regenerate. Over 52% of the surface area of the Upper Cavally Basin is cultivated. The predominant land use is upland, rainfed rice. Savannah patches are mostly used for livestock production, hunting, fuel wood, and non-timber and wildlife, harvesting. As stated above, 80% of the population practice agriculture, and land shortages have led to dramatically reduced fallow times (see Annex 12 for further details).
13. At the local level, traditional hunting provides local animal protein. It is practised year-round with snares, shotguns and flushing animals from hiding places. The cane rat (*Thryonomus swinderianus*) is the most prized prey. Game is destined for both household consumption and for sale (see paragraph 16 of Annex 12 – GEF project brief).
14. Today, natural dense forests outside the Biosphere Reserve’s core areas have nearly disappeared, with the exceptions of a few isolated sacred groves and gallery forests along waterways.
15. Eco-tourism, at the World Heritage Site and the Bossou Hills in particular, could eventually play a significant role in raising local incomes and providing a long-term, non-consumptive industry for the Reserve.

### 1.3 Policy and legal contexts and relevancy to national projects and programmes

16. The Republic of Guinea is party to conventions and/or international agreements concerning biological diversity, in particular the Convention on Biological Diversity (ratified May 7<sup>th</sup>, 1993), the World Heritage Convention (1979), the Washington Convention on the International Trade in Endangered Species (CITES), the Ramsar Convention, the Convention to Combat Desertification and the United Nations Framework Convention on Climate Change.
17. The National Environmental Action Plan (NEAP) was adopted by the Government in 1994. It includes a long-range vision, an implementation strategy and an action plan. The basic principle underlying the NEAP is the integration of the environmental dimension in the country’s economic and social development policies. Two major objectives are being pursued, namely sound and sustainable resource management and the definition or strengthening of sectoral policies.
18. The Guinean National Biodiversity Conservation Strategy offers the following vision of biological diversity in the year 2015: “A population, including all its socio-economic components, sufficiently informed of the values of biological diversity and the risks involved with it, and responsible and committed to the conservation and sustainable utilisation of its resources in the national and sub-regional interest, and for the satisfaction of present and future generations.” The specific objectives of this programme (see logical framework, Section II part 1) aim to realize this vision in the NMBR.
19. The programme follows also the priorities of the Guinean Government’s NEAP (1994), the 2010 Vision for Guinea (2000), the Poverty Reduction Strategy (2000) and the National Development Plan (2001), all of which cite combating poverty and promoting good governance for sustainable human development as overarching goals. All of these are major concerns of the current programme and of the financial partners of Guinea, such as the World Bank, USAID, the French Development Agency (AFD) and the Canadian Agency for International Development (CIDA). The programme also follows the logic of the Letter on Agricultural Development Policy (LADP, 1997) whose principal objectives are an “increase in animal and crop production (specifically rice which is the basis of national food security), the rational utilisation of natural resources (land, forests and water) and protection of biodiversity”.

20. From 1958 to 1984, the State was the sole owner of land and of biodiversity resources. Since 1984, land ownership policy has aimed to return land to those who cultivate it, consequently reintroducing the notion of private property into the agricultural economy (Condé, 2001). In the Upper Cavally Basin access to land is generally governed by customary rights. This system is incompatible with the provisions of the private land and property ownership code instituted in 1992, and individual acquisition of land is a source of conflict. This conflict is intensified by arable land becoming scarce.
21. The legal bases for community participation in Guinean law are found in the Forestry Act, the Wildlife and Hunting Act and the Land Tenure and State Property Act (*Code foncier et domanial*). However these acts are not adequately implemented because the corresponding specific laws and regulations for their execution have never been published (see Annex 12 – Project brief, Annex 9 – for lessons learnt on this issue).

#### 1.4 Threats to and causes of biodiversity loss in the NMBR

22. Guinea had an annual deforestation rate of 5% between 1990 and 1995 (World Bank, 1999). Although the numbers are unavailable specifically for the Upper Cavally Basin, local stakeholders agree that it is rapid there (ZOPP, 2001). Species such as the pygmy hippopotamus, the buffalo (*Syncerus caffer nanus*), the leopard (*Panthera pardus*), the bushpig (*Potamochoerus porcus*) and many duikers (*Cephalophus niger*, *C. dorsalis*, *C. manticola maxwelli*, *C. zebra*, etc.), are threatened with extinction (Lamotte et Roy, 1998; Hamel, 2000).
23. There are numerous, mutually reinforcing causes for the loss of biological diversity. Agricultural expansion is considered the primary cause of forest ecosystem degradation, with population growth as its root cause (Condé, 2001; Camara, 2001; ZOPP, 2001). Considering the annual population growth rate of 4.1%, in theory the population of the Upper Cavally Basin should increase from 59,000 in 2001 to over 83,000 in 2011 (end-date of this programme).
24. Other factors influencing the Nimba Mountains Biosphere Reserve include the limited quantity of arable land, increasingly degraded soils, impoverishment of vegetative cover along the mountain gradient (forests, savannahs, bush), differential impoverishment of forests in the uplands, low agricultural yields, inappropriate agricultural techniques, low incomes, abusive logging, institutional weaknesses, poverty and a strong dependence on natural resources and low technology levels. For more details, see the problem tree, Annex 1 of the GEF project brief (Annex 12 of this document).
25. The proximate threats to the biodiversity in the Guinea Upper Cavally Basin, which is what defines the limits of the NMBR, are:
26. **Rapid expansion and degradation of arable land.** Agricultural production per farm is insufficient. This results from relatively modest farm sizes and from low yields. The surface area cultivated per farmer remains small since it is limited by labour intensive techniques. Low-lying zones under irrigated cultivation are exposed to violent floods when watersheds are cleared of forest cover.
27. The decline in soil fertility and topsoil loss resulting from deforestation and reduced fallow periods are aggravated by the absence of alternative agricultural practices. Yields are further reduced by crop damage from straying free-ranging livestock, bush fires (degrading forests and savannah alike) and several agricultural pests and organisms like stink bugs and invasive plants. Fires are more intense in degraded forest cover, and the ecological changes resulting from deforestation (forest fragmentation, discontinuity of forest patches) favour the propagation of the above-mentioned pests and organisms.
28. **Over-utilisation of fauna and game.** The local population is malnourished in part because its income and crop production are low, and in part because of low outputs from domestic animal husbandry. The

resulting protein deficiency, for which farmers are unable to compensate by buying domestic animal protein on local markets, is exacerbated by the decreasing quantity and quality of traditional sources of animal protein, namely game, fish and small animals collected in the wild. This spurs hunters to poach in the core areas, where game is more abundant but biological diversity is further threatened. The increasing scarcity of these wildlife resources results from a loss of habitat, and from excessive hunting pressure, due to both low incomes and high population growth, which increases malnutrition.

29. **Potential abusive forestry.** Abusive and excessive tree-cutting is due mainly to industrial timber harvesting, which directly opens up and degrades the forest and facilitates agricultural encroachment into forested areas. Tree-cutting for local purposes, essentially for fuel wood, is thought to have a negligible impact because wood collection occurs principally in fallow land and in areas being cleared **expressly** for agriculture.
30. **Potential threat from mining activities.** Mining constitutes a real threat although it could constitute potential opportunities to the Reserve. Prospecting which took place in the 1970s introduced exotic plant species to the site (*Melinis multiflora* and *Dissotis grandiflora*) which are already colonising the northern portion of the massif (Lamotte 1998, cited in Bangoura, 2001). Any further mining will certainly degrade the areas set aside for extraction and mining infrastructure, as well as potentially speed up alien invasive species expansion, and erode fragile slopes and watersheds.
31. The root causes of the above threats include:
32. **Low incomes.** Farmers' incomes remain minimal due to low agricultural production, and because local production is sold at low prices. Low sales prices are the consequence of inter-linked factors including farmer isolation due to mediocre road infrastructure, weak management capacity of farmers who must deal with marketing channels organized against their interests, and difficulties in accessing credit leading to farmers becoming over-indebted to loan sharks who compel them to sell their crops prematurely. Non-agricultural sources of revenue are insufficient due to the isolation of the region, and the lack of any major economic motor. There are also difficulties encountered by women's associations to develop income-generating processing activities due to these factors.
33. **Rapid population growth.** Population growth results primarily from immigration from other parts of Guinea and from Liberia and now Ivory Coast (refugees). Sahelian populations thus represent a secondary wave of immigrants. Migration effects on land scarcity are reinforced by the high dependency of this population on the land and by damaging, land-intensive production methods, while agricultural methods remain unchanged.
34. **Poor health conditions.** The insufficient and poorly diversified diet contributes to high infant mortality rates in villages. Other direct causes of poor health are inappropriate hygiene practices and degradation of water supplies due to watershed degradation, resulting in poor access to clean drinking water. Furthermore, traditional medicinal plants and traditional medical knowledge are fast disappearing.
35. **Unmet educational needs.** Access to education was identified along with health as a major social problem in the NMBR. The illiteracy rate is high and results from the low rate of children going to school and weak efforts to teach literacy, in particular among girls. The reasons identified for the low school enrolment rate are the scarcity of schools and the predominance of low incomes, which also cause high drop-out rates.
36. **Land tenure conflicts.** In a situation of scarcity of arable land, tenure conflicts are inevitable. Land competition pits farmers against one another, inciting them to cultivate even if only minimally in fallow land for fear that it could be taken away from them. Fear of losing land rights thus contributes to rapid

agricultural expansion in remaining forests since farmers are in effect engaged in a race for unclaimed land.

37. **Decline in traditional conservation knowledge and techniques.** There is evidence of a decline in traditional systems of forest and wildlife conservation, such as sacred groves, regulation of access or use through taboos, and crop rotation strategies. This is due to the increasing competition for resources, and poverty of local communities, and the inability of traditional learning systems to sustain themselves under present circumstances.
38. **Institutional factors.** Weak management capacities of organisations such as the Centre for the Management of the Environment of the Nimba Mountains (known by its French acronym ‘CEGEN’), the inadequate legal framework and the lack of synergy among diverse stakeholders and local institutions are all contributing to a lack of capacity to address the threats and root causes mentioned above. For example, institutional weaknesses are causing difficulty in achieving harmonious co-management among local residents of the Bossou Hills regarding their chimpanzee community, with evidence of threats to the latter.
39. CEGEN suffers in particular from insufficient management capacities and from the fact that not only do institutional roles remain poorly or inappropriately defined in law, but in practice they are either unknown or not respected, CEGEN and other agencies operating in the NMBR have inadequate information on the state of the environment and biodiversity, as well as a good understanding of the links between healthy biodiversity, human welfare and directed interventions for change. CEGEN suffers chronically from limited and insecure financial resources. Without financial security it cannot fulfil its mandate at the Reserve.

#### 1.5 Institutional framework for managing the Upper Cavally Basin

40. There exist several institutions established more or less recently that are responsible for the management of natural resources in the Upper Cavally Basin. The comparative advantages of these potential stakeholders in the participatory management of these resources and the eventual benefits they can bring have been assessed for the proposed programme.
41. First and foremost, CEGEN is the agency with statutory responsibility for managing the NMBR and for co-ordinating the different activities led by specialized sectoral agencies. Its official responsibilities and limited present capacity are summarized in Annex 12 – GEF project brief, paragraph 27 and Annex 13.
42. Managing forestry is the responsibility of the Directorate of Water and Forests, which is part of the Ministry of Agriculture. Guinea has a Tropical Forestry Action Plan which was under implementation in Forested Guinea or “*Guinée Forestière*” at the time this programme was elaborated. However, it had no significant impact in the region. While the Forestry Act is sound, enforcement of its provisions and of the technical specifications of concession agreements by the Directorate of Water & Forests has been seriously undermined by the lack of logistical means, the low motivation of numerous civil servants and loopholes allowing loggers to operate outside of normal concession agreements.
43. Rural Development Communes (RDCs) prepare and implement local development plans, for example installing social and economic infrastructure at the community level. Decentralized national services are responsible for implementing sectoral and national government policies and programmes at the local level. Of importance for the management of the NMBR are the National Directorates for Water and Forests (NDWF), for Scientific and Technical Research (NDSTR), for Livestock (NDL), for Agriculture (NDA), for Environment (NDE) and for Health (NDH). In addition, organisations and institutes under the administrative authority of the above Directorates, such as the Environmental Research Institute of

Bossou (ERIB – *Institut de recherche environnementale de Bossou*),<sup>2</sup> the Forestry Centre of N’Zérékoré, the Environmental Documentation Centre (N’Zérékoré) and the Cane Rat Breeding Research and Extension Institute of Guinea (IRVAG - *Institut de Recherche et de Vulgarisation de l’Aulacodiculture en Guinée*), as well as other development partners (IFAD, UNHCR, GTZ and various other projects, etc.), also pursue development activities with the RDCs in the Reserve.

44. Tri-national meetings were held (Sept. 2001 and Feb. 2002) between CEGEN and its partners in Côte d’Ivoire and Liberia, and were promising: they have extended awareness of and opened dialogue on integrated environmental management in the three countries - Guinea, Liberia, Côte d’Ivoire - sharing the Nimba Mountains (Annex 12, GEF project brief, see paragraph 30 and Annex 12).
45. The private sector is pursuing intensive activities in the Upper Cavally Basin, exerting strong pressure on elements of the Nimba Mountains’ biodiversity. Due to the size of their potential investment, the mining partners will heavily influence the future of the region. A draft Agreement (known as the “Nimba Convention”) was formulated in 2001 and signed in May 2003 by the Minister of Environment. Part of the terms of this convention are that the Mining Consortium will undertake to contribute at least \$500,000 per year to a Foundation or Fund, and that these resources will be used for both strengthening the protected area system in Nimba as well as for undertaking sustainable development activities. Furthermore, the Convention calls upon the Mining Consortium to provide an advance as soon as signature of the Convention is signed (see Annex 12, GEF project brief Annexes 10 and 11).
46. Civil society organisations, in particular the Union of Volunteers for the Integrated Development of Zantompiez (UVODIZ - *Union des Volontaires pour le Développement Intégré de Zantompiez*), the Guinean Society for Support to Integrated Development of Small Animal Husbandry (AGADEME - *Association Guinéenne d’Appui au Développement du Mini-élevage Intégré*) and the Regional Federation of Livestock Breeders of Forested Guinea (*Fédération Régionale des Éleveurs de Guinée Forestière*) are also active in the greater Nimba Mountains ecosystems.
47. Since the mid-twentieth century, the Nimba Mountains Biosphere Reserve has been the object of many scientific studies, carried out principally by the French Institute for Black Africa (*Institut Français d’Afrique Noire*), and today by the Primate Research Institute of Kyoto (Japan) and by Guinean and international researchers. Amongst these studies, seventeen projects were conducted on the chimpanzees of Bossou under the direction of Professors Y. Sugiyama and T. Matsuzawa, who contributed to the creation of ERIB.
48. In order to strengthen Guinean capacity to manage biodiversity, 32 Guinean students were trained under the Pilot Programme for the Nimba Mountains (PPNM) in the fields of biology, sociology and geography. But the public and parastatal sectors have strict limits to the numbers of staff they can hire and many technically trained people have sought employment unsuccessfully for years, even when there is so much to be done. In terms of skills available in the region, extension agents from the Directorate of Water and Forests received training through seminars, workshops and symposia organized by projects active in the region: the Forest Resources Management Project (PROGERFOR - *Projet de gestion des ressources forestières*), the Rural Resources Management Project (RRMP - *Projet de gestion des ressources rurales*), the Project for the Development of Small-scale Forest Inhabitants in Forested Guinea (PDPEF/GF - *Projet de développement des petits exploitants forestiers en Guinée forestière*), the AGIR Programme (*Appui à la gestion intégrée des ressources*) that contributed to training guards at the Dalaba Centre, etc.

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<sup>2</sup> ERIB’s mandate overlaps with CEGEN’s in that it is responsible for, among other things, managing the 300-hectare Bossou Hills area. However this area has traditionally and for centuries been managed by the residents of Bossou and in essence as a private community reserve due to its chimpanzee population. See Annex 12, GEF project brief, (Annex 8).

49. At the national level, the National Directorate of Environment, under the Ministry of Environment, is responsible for the management of the environment and the implementation of activities conducted within the framework of the international conventions ratified by the Government of the Republic of Guinea, including in particular the United Nations Framework Convention on Climate Change and the Convention on Biological Diversity. This Ministry is legally responsible for implementing these legally binding conventions. For specific aspects, the Ministry of Environment shares responsibilities with the Ministries of Agriculture and Livestock, Fishing and Aquaculture, and the Ministry of Planning and the Ministry of Cooperation. A National Environment Council (CNE - *Conseil National de l'Environnement*), an intersectoral coordination entity, had been designed to ensure the sustainability of the development path but was not operationalized due to a lack of information and awareness of the designated members and, mainly, a lack of financial resources.

## 1.6 Programme beneficiaries

50. According to the programme support document, the major beneficiaries of the activities planned include:
- the population of the NMBR, in particular those around the three core areas and especially youth, poor women and other targeted groups,
  - relevant departments of the Ministries responsible for Environment, Health, Water, Agriculture and Livestock,
  - the programme's Steering Committee and CEGEN,
  - the NGOs and organisations strongly involved in the fight against poverty and environmental protection, and
  - micro-finance institutions.

## **Part 2. Strategy**

### **2.1 National strategic framework**

51. The National Biodiversity Strategy and Action Plan approved by the Government in 2001 offers a global vision over 15 years. It defines a framework for action at all levels which should create the necessary conditions to improve the national capacity to ensure the productivity, the diversity and the integrity of the natural ecosystems. Its objective is conservation, the sustainable use of biological diversity and the strengthening of international cooperation for the equitable sharing in the benefits for such use. The National Biodiversity Strategy and Action Plan incorporate the specific guidelines contained in the PRSP (Poverty Reduction Strategy Paper – PRSP, 1999).

### **2.2 United Nations framework and objectives of UNDP support**

52. In close consultation with the PRSP Inter-ministerial Committee, the UN System elaborated the Common Country Assessment (CCA) and the UN Development Assistance Framework (UNDAF) for Guinea. The priority strategic orientations of the UNDAF are: supporting pacification and security initiatives in the sub-region; promoting a favourable environment for sustainable human development, and ensuring access to basic social services. The objectives of UNDP support for the 2002-2006 period are essentially in line with the latter two UNDAF orientations.

53. More specifically, and according to the general orientations of the Cooperation Framework, the support provided by UNDP to implement the National Biodiversity Strategy and Action Plan will focus on one hand on biological diversity conservation in the Nimba Mountains, and on the other, in connection with the PRSP, on local development and micro finance.

### **2.3 Partnership**

52. At the national level, UNDP is working in close collaboration with all national institutions concerned, i.e. the Ministry of Environment, the Ministry of Agriculture and Livestock, the Ministry of Higher Education and Scientific Research, the Ministry of Land Administration and Decentralization, the Ministry of Economy and Finance and Civil society organizations. At the international level, strategic partnerships will be developed, in particular with UNESCO/World Heritage Centre (WHC), the French Development Agency (*Agence Française de Développement* – AFD), the World Bank, the German Technical Co-operation (GTZ), the European Union, Japan, FFI, IFAD and NGOs.

## **Part 3. Management Arrangements**

### **3.1 Programme Preparation and Planning**

53. During preparation and planning of the programme, UNDP-Conakry hired a national administrator and administrative support, which were housed in CEGEN, with PDF-B, UNDP and UNESCO resources. Local consultants were then hired to carry out the background and feasibility studies. UNDP and UNESCO hired international consultants.
54. Stakeholders' participation was actively sought through consultations, a workshop for local population awareness-raising, village meetings, consultations with the donors (AFD, FFEM, USAID, European Union, UNESCO World Heritage Centre, GTZ/KfW, Japan, Canada, World Bank), the mining partners (MIFERGUI, BHP-Billeteon, Rio Tinto), the RDCs, NDWF, NDE, NDSTR, NDA, NDH, the natural resource management projects (RRMP), the local NGOs (UVODIZ, AGADEME, etc.) and international NGOs (FFI and Conservation International -CI). In all, over 500 people participated in the preparation within the PDF-B project.
55. First, thematic reports were prepared, based in particular on a literature review, consultations with the populations groups around the Reserve and the local authorities, prior work (in particular those of the PPNM), and consultations with the governmental entities and development agencies concerned. The consultations conducted in the Nimba region included numerous informational meetings with the population and the local authorities of the Reserve and the district capital of Lola, close to the project site. Those thematic reports were examined and approved by a steering committee consisting of representatives of the various entities concerned.
56. Then, in October 2001, some 50 representatives of the RDCs, local women organizations, decentralized sectoral services of the national directorates (NDWF, NDSTR, NDL, NDA, NDE and NDH), development programmes active in the region and the PDF-B project's national and international consultants participated in a ZOPP workshop in the Nimba Mountains to plan the programme in detail, to reinforce consensus, mutual understanding, trust and cohesion, to train and inform all stakeholders of the complexity and inter-relatedness of developmental and environmental considerations, and to construct the logical framework of the full programme.
57. Additional local information meetings were held to disseminate the results of the planning process to the communities concerned. This led to written commitments from local communities via the RDCs to provide in-kind contributions worth approximately \$100,000.

### **3.2 Programme Implementation**

58. The programme will be nationally executed through UNDP's standard NEX arrangements. The GEF contribution will be handled by the UNDP country office, and executed by the Ministry of Environment via CEGEN, which will be responsible for day-to-day execution of the programme. UNDP, as the primary implementing agency, will provide administrative and technical assistance to CEGEN. In partnership with CEGEN, it will take part in the selection and recruiting of support staff for the programme and in the procurement of equipment required to carry out the activities and obtain the outputs. It will provide advice on the elaboration of thematic reports. UNDP will be responsible for opening the programme's bank account and for supervising the administrative and financial management of all programme activities. In addition, it is expected that the funds from the Mining Consortium will also be managed through the UNDP in a separate account until such time as the Foundation is established and an appropriate administrative procedure put in place. UNESCO, FFI and CI are expected

to provide advice on research, training needs and management of the programme. Furthermore, NGOs such as FFI may be called upon in the first few years, to provide technical support to CEGEN.

59. UNDP will hire a National Project Administrator according to current UNDP/GEF procedures to work alongside CEGEN Director. (S)he will work with all due autonomy and without interference by the Ministry or CEGEN's management, although (s)he will work in close cooperation with CEGEN. UNDP expenditures will be certified by a National Co-ordinator (NC), a senior civil servant named by Ministry of Environment from the Minister's Cabinet and with UNDP's approval, to oversee the programme on behalf of government. The coordinator will not receive any compensation or salary. CEGEN (for matters relevant to this programme) will report to the NC and receive instructions through the NC on behalf of Government.
60. A Programme Steering Committee will provide general supervision to the initiative, acting as the overall decision-making body and approving reports, annual work plans and evaluations. Its terms of reference (TOR) appear in Annex 8. It will be composed of representatives of national directorates and/or decentralized sectoral services (NDWF, NDSTR, NDL, NDA, NDE and NDH) and the national GEF focal point. It will also include representatives of mining companies, ERIB, the RDCs of Bossou and N'Zoo and local NGOs (especially those involved in protecting the Nimba Mountains). The Steering Committee will also include representatives of the donors, including GEF, UNDP and UNESCO. It will meet once a year and the National Administrator (execution agent) will ensure its secretariat.
61. As CEGEN does not currently have all the requisite skills needed to carry out its mandate, staff with needed skills will be recruited from elsewhere, within as well as outside the public sector. Staff thus brought into CEGEN will be integral members of the programme execution team, and will gradually be made official members of CEGEN as the programme is implemented, until there is full integration with government structures at the end of the programme. Until such time as they are made official members of CEGEN, they will be hired by an NGO and seconded to CEGEN. CEGEN will be supported as needed by national and international consultants, as well as UN Volunteers (UNV). The Government will take all necessary steps to make available functional premises and offices for the programme team. In addition, it commits to provide a budget, at programme completion, covering all of the operating expenses in connection with the continuation of the activities (maintenance costs of equipment procured under the project, consumables, etc.). The financing of such activities, after project completion, will therefore be ensured via the National Budget (internal resources or national counterpart). The Government will also take the required steps to capitalize on the best practices and lessons developed by the Programme.
62. In order to accord proper acknowledgement to GEF for providing funding, all projects documents should include a paragraph to explicitly require that a GEF logo appear on all relevant GEF project publications, including among others, project hardware and vehicles purchased with GEF funds. Any citation on publications regarding projects funded by GEF should also accord proper acknowledgment to GEF. The [UNDP logo](#) should be more prominent -- and separated a bit from the [GEF logo](#) if possible as, with non-UN logos, there can be security issues for staff.
63. The programme will be highly participatory, not limiting itself to merely consulting relevant stakeholders. Rather it will engage, collaborate with and empower them to carry out defined management roles in the NMBR. Annex 3 outlines the activities and groups.

## **Part 4. Monitoring and Evaluation.**

### **4.1 Programme monitoring and evaluation provisions**

64. Programme monitoring and evaluation will be both internal and external. Internal monitoring and evaluation will be conducted for each programme component under the supervision of the National Administrator. Each component will be monitored by the appropriate programme personnel and will include information on staff, budget and technical and administrative matters (see Annexes 5 and 7 for more details). This system will involve regular meetings to review progress. Monitoring and evaluation indicators appear in the logical framework (Section II, Part 1). An institutional monitoring & evaluation system will also be put into place for CEGEN and for the technical support team which will seek to strengthen CEGEN's capacity throughout the programme (see Annexes 2 and 4).
65. During programme implementation, the results for indicators will be transmitted monthly by the managers of programme components to the National Administrator, who will then consolidate them in a summary table for the programme. Every semester, the summary table produced will be circulated to programme partners. In addition, once per year a monitoring and evaluation report on the past year's activities will be produced. Measures will be taken during the Steering Committee meetings to resolve problems encountered.
66. Three external independent evaluations (two "mid-term" evaluations, one at the end of the first two internal phases, and one final evaluation) are planned in addition to annual audits. These will be conducted in line with GEF and UNDP procedures. They will focus on five main objectives:
- Measuring impact on globally significant resources and livelihoods,
  - Measuring the performance differences between what was planned and what was achieved,
  - Identifying problems related to executing the planned activities,
  - Proposing corrective measures and solutions and recommending (or not) that the programme progress from one internal phase to the next, and
  - Extracting and documenting any more general lessons for this and other programmes.
67. The project strategy, work plan, and activities may be revised to match expected goals and impacts as a result of the recommendations of the first two independent evaluations. As the programme ends, the final evaluation will result in an exhaustive report on its achievements (programme performance, impact and lessons learnt) six months prior to programme completion. The costs of monitoring and evaluation will be taken into account in the programme budget, and will be detailed during the Appraisal phase.
68. Results and lessons learned from the programme will be disseminated both within the Reserve as well as through the national protected area system, the CHM of the CBD, and other relevant national and international networks. Funds will be made available for programme staff and local community leaders to participate in relevant international and regional events to share experiences and analyse impacts and results.
69. The project will be implemented in three internal phases of three years each. Benchmarks are proposed, that will be evaluated during the mid-term evaluations, to trigger the programme's transition from one phase to the next.

### **4.2 First internal phase**

70. The key indicators of success for this phase, and thus for the programme to progress into its second phase, relate mostly to operational accomplishments and inputs. Indicators include:

- i. demarcation of the reserve's boundaries and approval of established limits by all RDC (see Output 1.1 of the logical framework, Section II, Part 1),
- ii. preparation of initial versions of management plans for the three core areas of the biosphere reserve (see Output 1.5),
- iii. land-use plans focusing on agriculture as well as hunting, animal husbandry, refugee contingency plans, and non-timber forest product (NTFP) use including medicinal plants prepared for all RDCs (or relevant grouping) for the NMBR buffer zone and 50% of the transition zone (see Output 2.1),
- iv. installation of CEGEN's and the programme's basic infrastructure, acquisition of technical, managerial, and monitoring skills (see Output 5.2), and
- v. establishment of an ecological monitoring system based on vegetation/forest cover and indicator species (see Output 5.3).

#### 4.3 Second internal phase

71. The key achievements of this phase will include a mix of both operational achievements and higher-level impact indicators. It is proposed that for the programme to pass to the subsequent and final phase, the World Bank/WWF Management Effectiveness Tracking Tool (METT – see Annex 6) score increases from 39 (baseline) to at least 55, and not more than one indicator per component remains unmet and at least 10 out of the 14 indicators are met. These indicators should be refined during the first mid-term evaluation. Preliminary indicators include:
- i. populations of key ecological integrity indicator species increased by at least 10% above baseline levels within the core areas (see Output 1.2),
  - ii. at least four years of data available from the ecological monitoring system (see Outputs 1.2/5.3),
  - iii. frequency of infractions per patrol-day decreased by 50% from the baseline level of Y1 (see Output 1.3),
  - iv. the detailed environmental study of all possible impacts and eventualities from the proposed mining project is prepared (see Output 1.4),
  - v. corrective actions taken for 100% of infractions of land-use plans by end-year 6 (see Output 2.1),
  - vi. plans to improve cultivation methods and inputs are under implementation in at least 12 villages (see Output 2.2),
  - vii. incomes from non-agricultural sources increased in beneficiary villages by at least 10% (see Output 2.4),
  - viii. 12 villages benefiting from animal husbandry support (see Output 3.1),
  - ix. abundance of target harvested wildlife species increased by 20% above year 1 baseline (see Output 3.3),
  - x. no inhabitant further than a 2-hour walk from a functioning health centre (see Output 4.2),
  - xi. at least 60% of health centres offering traditional treatments as standard treatments (see Output 4.2),
  - xii. the development master-plan for the NMBR is approved (see Output 5.1),
  - xiii. 95% of higher and middle level CEGEN staff have received at least 4 months of training according to the detailed capacity-building training plan (see Output 5.2), and
  - xiv. favourable attitudes towards the Reserve and its objectives understood by at least 60% of the population older than 10 years (see Output 5.5).

#### 4.4 Third internal phase

72. The third and final internal phase will concentrate on continuing the activities launched during the preceding phases, on launching activities that will not yet have begun, on expanding activities to the transition area, and on consolidating the sustainability of all activities so they may continue after the programme closes. One element of this will be the formal establishment of the proposed 'Nimba Foundation' or similar institution and a related sustainable financing mechanism, to be supported by contributions from the mining company when extractive activities begin, and from other sources. It will also share lessons learned on participatory management of the Nimba Mountains' biodiversity resources at national, sub-regional and international levels, and act as an international presence in the zone.

The logical framework (Section II, Part 2) and Annex 2 on the programme's M&E Plan provide more detailed indicators for all three internal phases.

### **Part 5. Legal Context.**

73. This support document shall be the instrument referred to as such in Article 1, Paragraph 1 of the Standard Basic Assistance Agreement concluded between the Government of Guinea and the United Nations Development Programme and signed by the Parties on 13 February 1975. The host country implementing agency shall, for the purpose of Standard Basic Assistance Agreement, refer to the government co-operating agency described in that Agreement.

74. The following types of revisions may be made to this project document with the signature of the UNDP Resident Representative only provided he or she is assured that the other signatories of the project document have no objections to the proposed changes:

- Revisions in, or addition of, any of the programme annexes;
- Revisions which do not involve significant changes in the immediate objectives, outputs or activities of the project, but are caused by the rearrangement of inputs already agreed to or by cost increases due to inflation; and
- Compulsory annual budget revisions which alter the delivery of agreed project inputs, or reflect increased expert or other costs due to inflation, or take into account agency expenditure flexibility.

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## SECTION II. TOTAL WORK PLAN AND BUDGET

### Part 1. Logical Framework, including Expected Outcomes, Indicators of Success, Objectively Verifiable Indicators and Associated Costs.

Intervention logic	Indicators	Source of Verification	Indicative Cost to collect Verification Data and Project Budgetary Line	
<b>Overall Programme Objective: Core areas of the Nimba Mountains Biosphere Reserve protected in a manner compatible with local sustainable development needs</b>	Removal of the Nimba Mountains from the List of World Heritage Sites in Danger by programme end. METT score increased from 39 to at least 65 by programme end. Average income in the buffer zone increased by 10% and in the transition zone by 5% by end of programme.	UNESCO publications  Ministry of Planning or intl development agency (UNDP, UNHCR, AFD, EC, other) statistics		
<b>Specific Objective 1. Ecological integrity assured for the three Core Areas of the Nimba Mountains Biosphere Reserve</b>	Forest cover restored or actively recovering (viz. Déré Forest) in 100% of degraded parts of core areas by Y9.  Populations of key indicator species: Stabilised by Y4, Increased by 10% over baseline by Y7, Increased by 20% by project end.	CEGEN's ecological monitoring system		
<b>Output 1.1. Boundaries of the core areas recognized, legalized and demarcated</b>	Officially approved legal gazettelement documents by Y3 Beacons and signposts in place along core area boundaries by Y3 All relevant RDCs (4) state their acceptance of the boundaries by end Y3	Legal documents  Reports with photos  Co-management contracts and signed statements from RDCs		
Activity 1.1.1. Complete the process of legalizing the Core Areas	Drafted legal gazettelement documents Introduction of these documents into the approval process	Letters and documents (physical copies)	62000 International consultant	38 000
			62000 Local Consultant	15 000
			62000 Contractual services - indiv.	22 000
Activity 1.1.2. Demarcate the boundaries of the core areas	Fielding of demarcation teams	Mission orders, mission reports	62000 Contractual services - indiv.	30 000

<b>Intervention logic</b>	<b>Indicators</b>	<b>Source of Verification</b>	<b>Indicative Cost to collect Verification Data and Project Budgetary Line</b>	
			62000 Equipments (Pictograms)	20 000
S/Total			<b>Sub total</b>	<b>125 000</b>
<b>Output 1.2. Dynamics of the core areas' biodiversity known, threats precisely described and management actions identified with participation of buffer zone villages</b>	Ecological monitoring system based on vegetation/forest cover and indicator species: Established by year 3 4 years of data by year 7 7 years of data by end of project	Data base Reports analysing the data		
Activity 1.2.1. Study the impact of fires, evaluate human impacts on fire dynamics and identify appropriate management responses	Plan of research topics prepared Contracts signed with and TOR prepared for researchers Final reports prepared on study topics	Plan for research (document) Contracts and TOR (documents) Research reports (documents)	62000 Equipments Supplies 62000 Contractual services - comp. 62000 UNV (national)	30 000 65 000 20 000
Activity 1.2.2. Develop a deeper understanding of the impacts of mining activities, including those related to introduced species	Research plan prepared Contracts signed with and TOR prepared for researchers Final reports prepared on study topics	Plan for research (document) Contracts and TOR (documents) Research reports (documents)	62000 Equipments 62000 Professional Services 62000 Miscellaneous Expenses	20 000 60 000 5 000
Activity 1.2.3. Develop a deeper understanding of conservation priorities, and identify solutions with participation of local communities	Research plan prepared Contracts signed with and TOR prepared for researchers as necessary Final reports prepared on study topics	Plan for research (document) Contracts and TOR (documents) Research reports (documents)	62000 International consultant 04000 Equipments 62000 Equipment and furniture	30 000 20 000 10 000
S/Total			<b>Sub total</b>	<b>260 000</b>
<b>Output 1.3. Decrease in incursions and illegal activities in the core areas</b>	Frequency of infractions per patrol-day decreased by: 20% by end year 3, 50% by end year 6, and 70% by end of project	Reports on the law enforcement system		
Activity 1.3.1. Design, equip and organize a patrol-and -protection system	Costed, phased plan for the protection-and-patrol system	Plan (document)	62000 Contractual services - comp. 62000 Equipment 62000 Contractual services - indiv. 62000 Support Services 00123 Support services	100 000 665 500 15 000 60 000 500 000

<b>Intervention logic</b>	<b>Indicators</b>	<b>Source of Verification</b>	<b>Indicative Cost to collect Verification Data and Project Budgetary Line</b>	
			62000 International consultants	30 000
Activity 1.3.2. Involve local populations in the protection-and patrol system	Locally agreed participation strategy and plan Contract or other formal agreement framing/permitting local participation in the protection system	Strategy/plan (document)  Formal agreement (document) signed by management authority and local population representatives	00005 Contractual services - comp. 04000 Contractual services - indiv. 62000 Local Consultant 62000 Professional services 04000 Miscellaneous expenses 00311 Equipment	50 000 10 000 15 000 47 800 20 000 486 500
Activity 1.3.3. Organize cooperation with public law enforcement agents	Agreed cooperation strategy and plan Contract or other formal agreement framing/permitting local participation in the protection system	Strategy/plan (document)  Formal agreement (document) signed by management authority and local population representatives	62000 Contractual services - indiv. 62000 Travel 04000 Professional services 62000 Miscellaneous expenses 00123 Equipment 00311 Miscellaneous	10 000 20 000 20 000 20 000 40 000 50 000
S/Total			<b>Sub total</b>	<b>2 159 800</b>
<b>Output 1.4. Improved compatibility of planned mining activities, and strengthened cooperation.</b>	Detailed environmental study of all possible developments Mining Consortium contributing as expected to Foundation/Fund by end of project	CEGEN reports and EIA		
Activity 1.4.1. Monitor developments in the mining project and prepare precise environmental guidelines	Functional, capable, independent monitoring system in place Environmental guidelines agreed	Contracts/TOR with those responsible for monitoring Written guidelines (document)	04000 Local Consultant 04000 Professional services	7 000 10 000
Activity 1.4.2 Monitor compliance of mining consortium to Convention and program objectives – report to Ministry as necessary	Infractions identified by monitoring system and addressed proactively (rather than reactively in response to outside criticism)	Reports prepared by monitoring system and/or CEGEN	62000 Contractual services - comp 00311 Contractual services-comp	120 000 100 000
S/Total			<b>Sub total</b>	<b>237 000</b>
<b>Output 1.5. Management plan prepared and implemented for the three core areas, with full participation of local communities</b>	Core areas' management plan focusing on the three areas: preliminary versions by year 3, final versions by year 4.	Management plans (documents)		

<b>Intervention logic</b>	<b>Indicators</b>	<b>Source of Verification</b>	<b>Indicative Cost to collect Verification Data and Project Budgetary Line</b>
Activity 1.5.1. Prepare and implement a management plan for the World Heritage Site, after consultations on relevant matters with the mining project, local populations and relevant authorities in the neighboring countries, and based on data collected above	World Heritage Site management plan: preliminary version by year 3, final version by year 4, and formal approval by affected local communities.	Management plans (documents) Formal local community communiqué	04000 Local Consultant 6 000 62000 Support Services 50 000 62000 Contractual services - comp. 100 000
Activity 1.5.2. Prepare and implement a management plan for the Bossou ecosystem after consultations on relevant matters with local populations and ERIB	Bossou Hills management plan: preliminary version by year 3, final version by year 4, formal approval by affected local communities.	Management plans (documents) Formal local community communiqué	05000 Local Consultants 13 300 04000 Travel 25 000 00311 Contractual services - Comp. 300 000
Activity 1.5.3. Prepare and implement a management plan for the Déré ecosystem after consultations on relevant matters with the National Directorate for Water & Forests, Côte d'Ivoire and local populations	Déré Forest management plan: preliminary version by year 3, final versions by year 4, formal approval by affected local communities.	Management plans (documents) Formal local community communiqué	62000 Travel 10 000 62000 Miscellaneous expenses 20 000 62000 Professional Services 30 000
S/Total			<b>Sub total 554 300</b>
<b>Output 1.6. Impacts of refugees do not affect the core areas</b>	Refugee camps located far from core areas by year 3 Reported infractions in Core Areas not committed by refugees. Refugee contingency plan developed by year 3	Reports of humanitarian agencies active in the area (UNHCR, WFP, etc.) and of CEGEN; refugee contingency plan (document)	
Activity 1.6.1 Liaise with humanitarian agencies to ensure incorporation of environmental concerns in relief work, including siting & sizing of camps and providing appropriate employment & income-generating activities	Agreement reached with humanitarian agencies on managing environmental issues related to refugees in the NMBR	Written record of agreement	62000 Contractual services - comp. 20 000 62000 Miscellaneous expenses 30 000
Activity 1.6.2 Develop with humanitarian agencies a refugees' contingency plan in case of future refugee movements	Contingency plan Humanitarian and CEGEN staff trained in implementing the contingency plan	Contingency plan (document) Training materials for humanitarian agency and CEGEN staff	04000 Local Consultant 15 000 00005 Contractual services - comp. 15 000
S/Total			<b>Sub total 80 000</b>
			<b>Sub Total Out come 1 3 416 100</b>

<b>Intervention logic</b>	<b>Indicators</b>	<b>Source of Verification</b>	<b>Indicative Cost to collect Verification Data and Project Budgetary Line</b>	
<b>Specific Objective 2. Sustainable land use and agricultural revenues of local people increased on the basis of more productive practises</b>	Average revenues of farmers increased in real terms by 20% in at least 15 target villages by end of project Stabilisation of the area cultivated by the same villages by end of project.	Revenue surveys/reports of decentralised sectoral services from the region CEGEN's ecological monitoring system		
<b>Output 2.1 Sustainable land use systems</b>	Local communities and local government have established land use plans in year 4 across the full NMBR. Refugee contingency plans (see 1.6) take into account land use plans.	Written plans and reports of partner agencies working in the area of improving agricultural production (IFAD, AFD/PDSFI, etc.)		
Activity 2.1.1. Develop a deeper understanding of the social and land-tenure constraints linked to agricultural intensification	Report on social and land tenure constraints	Reports (document)	62000 International consultant	30 000
			04000 Equipments	10 000
Activity 2.1.2 Develop capacity for land use planning with local government and local communities	Land use planning training plan established and implemented.	Written training materials Reports from training	04000 Contractual services - comp.	30 000
			04000 International consultant	8 000
Activity 2.1.3. Develop land use plans, either for each community, or by commune, that take into account Refugee Contingency Plans	Specific references in land use plans to refugee contingency plans	Written references (in documents)	04000 Local Consultant	5 000
			04000 Equipment Supplies	5 000
Activity 2.1.4 Disseminate and enforce land use system	Land use plans distributed to all villages in the NMBR Corrective actions taken in 100% of infractions of land-use code by Y7	Report of CEGEN and the project team	04000 Miscellaneous expenses	40 000
			04000 Equipment and Furniture	10 000
S/Total			<b>Sub total</b>	<b>138 000</b>
<b>Output 2.2. Increased agricultural yields</b>	Annual rice production per hectare sown increased by 10% on upland sites without increasing soil depletion beginning in the 4 <sup>th</sup> year in beneficiary villages. Proportion of rice production from	Agricultural statistical reports for the prefecture and for Guinée forestière  Reports of partner agencies working in the area of improving agricultural production (IFAD, AFD/PDSFI, etc.)		

<b>Intervention logic</b>	<b>Indicators</b>	<b>Source of Verification</b>	<b>Indicative Cost to collect Verification Data and Project Budgetary Line</b>
	irrigated sites increased in beneficiary villages by 5% by end-year 3, 20% by end-Y6, and 40% by end of project. Sales of products other than rice increase by 25% every three years in target beneficiary villages.		
Activity 2.2.1. Support improvements in cultivation methods (soil improvements like soil conservation methods, fertilizers, manures and other inputs, development of low-lying areas for irrigation, introduction of improved seed varieties, etc.)	Plan agreed to introduce improved cultivation methods and inputs. Site-specific inputs provided to 5 villages by end Y3, to 12 villages by end-Y6, and to 20 villages by end-Y9.	Plan (written document) Project reports, reports of agricultural development partners	04000 International Consult. 30 000 04000 contractual services - indiv 23 000 04000 Local Consultant 5 000 04000 Contractual services - comp 230 000  00311 Contractual services - comp. 1 093 500 00123 Contractual services - comp 110 000
S/Total			<b>Sub total 1 491 500</b>
<b>Output 2.3 Improved incomes from agricultural produce sold for higher prices</b>	Net sales price per kilo of rice for farmers in the NMBR, with all charges/fees deducted, increased by 15% by year 6 and 30% by end of project	Local market surveys and surveys at Lola	
Activity 2.3.1. Improve understanding of marketing channels	Study completed on marketing channels for key agricultural products	Study report (document)	04000 Local consultant 23 000
Activity 2.3.2. Improve storage techniques and how produce is marketed	Local commodity storage capacity increased by 10% by year 6 and 30% by the end of project	Local surveys of agricultural production and marketing	04000 Contractual services-comp 60 000
Activity 2.3.3. Strengthen the negotiating skills of farmers' co-ops/communes/other groupings	Prices received by local farmers of the NMBR increased by 15% by Y6 and 30% by end of project in beneficiary villages	Local market surveys and surveys at Lola	04000 Travel 15 000 04000 Miscellaneous expenses 65 000
Activity 2.3.4. Facilitate access to credit	Number of credit accounts provided increased by 30% over Y0 by year 6 and by 50% by the end of project	Data base	04000 Grant 130 000 62000 Grant 195 000 00311 Contractual services - Comp. 100 000 00123 Contractual services-Comp 46 500

<b>Intervention logic</b>	<b>Indicators</b>	<b>Source of Verification</b>	<b>Indicative Cost to collect Verification Data and Project Budgetary Line</b>
S/Total			<b>Sub total 634 500</b>
<b>Output 2.4. Diversified income sources</b>	Income from non-agricultural sources increase in beneficiary villages by 10% by end- year 6 and 20% by end of project	Statistical reports from the Lola Prefecture and from the decentralised sectoral services of the Ministry of Economic Planning	
Activity 241. Promote local micro-industry	Representatives from all RDCs and major villages in the NMBR aware of non-agricultural options for income-generation	Workshop report and distributions materials	04000 Miscellaneous expenses 35 000
Activity 242. Encourage the introduction of simple processing technologies of agricultural produce	Non-primary economic activities piloted in 5 villages by end Y3, 12 villages by end-Y6, and 20 villages by end-Y9.	Statistical reports from the Lola Prefecture and from the decentralized sectoral services of the Ministry of Economic Planning	04000 UNV (national) 24 000 04000 Equipment/ Procurement MFP 45 000 04000 Professionals Services 10 000
S/Total			<b>Sub total 114 000</b>
			<b>Sub Total Out come 2 2 378 000</b>

<b>Intervention logic</b>	<b>Indicators</b>	<b>Source of Verification</b>	<b>Indicative Cost to collect Verification Data and Project Budgetary Line</b>	
<b>Specific Objective 3 Local needs for animal protein more fully met using practices that do not damage wildlife</b>	Reduced incidence of kwashiorkor by 30% in 15 beneficiary villages by end of project.  Species indicating over-hunting increasing in their natural habitats (monkeys, antelopes, large birds) by end of project	Prefectural surveys of health and nutrition  CEGEN's ecological monitoring system		
<b>Output 3.1. More productive animal husbandry, integrated with agriculture</b>	Villages benefiting from animal husbandry support: 5 villages by year 3, 12 villages by year 6, and 20 villages by end of project. Animal protein production in beneficiary villages increased by 5% by end-Y3, 20% by end-Y6, and by 35% by end of project without any associated decrease in agricultural production	Programme activity reports Reports on animal husbandry by technical sectoral services and relevant development agencies (National Directorate for Livestock, CRBREIG, AFD/AHSP, GTZ/RRMP)		
Activity 3.1.1. Develop the management skills of animal husbandry co-ops/communes/ groupings	Training/extension workshops held for at least 60 co-ops/communes/groupings made up of at least 1000 individuals	Programme activity reports	62000 Miscellaneous expenses 4000(NGO)Contractual services-Comp 4000 Miscellaneous expenses	55 000 110 000 60 000
Activity 3.1.2. Facilitate access of individuals or groups raising animals to extension services and inputs	At least 30 co-ops/communes/groups having received services and inputs for improved animal husbandry	Reports from program team and development partners	62000 Contract services-Comp	200 000
S/Total			<b>Sub total</b>	<b>425 000</b>
<b>Output 3.2. Domestication and breeding of wild animals tested and disseminated</b>	>50% of villages in the buffer zone with technically and commercially successful wildlife husbandry initiatives underway. 10% of animal protein consumed in the NMBR, outside of wild-hunted meat, will be from local residents raising domesticated wildlife by end of project	Programme activity reports  Reports on animal husbandry by technical sectoral services and relevant development agencies (Natl. Directorate of Livestock, CRBREIG, AHSP, RRMP)		
Activity 3.2.1. Develop a deeper understanding of past and current efforts to raise wild animals in captivity	Report on past and current efforts to raise wildlife species in captivity	Report (document)	04000 UNV Veterinarian	38 000
Activity 3.2.2. Establish animal husbandry	10 experimental trials underway to raise two	Program activity reports	00005 Contractual services-indv	86 000

<b>Intervention logic</b>	<b>Indicators</b>	<b>Source of Verification</b>	<b>Indicative Cost to collect Verification Data and Project Budgetary Line</b>	
trials for wild animals	wild species by end-Y3. 10 experimental trials underway to raise two different wild species by end-Y6. 15 wildlife-raising micro-enterprises launched by year 6.	Reports on animal husbandry by technical sectoral services and relevant development agencies (Natl. Directorate of Livestock, CRBREIG, AHSP, RRMP)	62000 Miscellaneous Expenses	27 000
			62000 Professional services	20 000
Activity 3.2.3. Study the technical, economic and social feasibility of these trials	3 conclusive trials achieved for 4 species by year 6	Program activity reports	62000 Contractual services-indv	26 000
			00005 Contractual services-indv	24 000
Activity 3.2.4. Progressively replicate breeding schemes for the most promising wild animals	Workshops presenting possibilities presented to >80% of all villages in the NMBR Extension services/inputs provided to at least 50% of villages in the buffer zone and 20% in the transition area	Program activity reports Reports on animal husbandry by technical sectoral services and relevant development agencies (Natl. Directorate of Livestock, CRBREIG, AHSP, RRMP)	00005 Miscellaneous Expenses	43 700
			62000 Contractuel services-comp.	112 000
S/Total			<b>Sub total</b>	<b>376 700</b>
<b>Output 3.3. Wildlife and non-timber forest resources co-managed with local populations in a sustainable manner</b>	Abundance of target wildlife species: stabilised at baseline level established by year 3, increased by 20% above baseline by year 6, and increased by 40% by end of project. Off-take of target wildlife species: stabilised by year 6, and increased by 20% by end of project.	Ecological monitoring system (see Output 5.3) Studies of hunting and consumption of bushmeat		
Activity 3.3.1. Raise awareness of those who hunt or collect wildlife of the principles of sustainable management and of enforcement of relevant laws	Sustainable management principles officially adopted by at least 50% of buffer zone villages	Written guidelines for sustainable off-take and formal commitments to follow them (documents) from communities	62000 Miscellaneous expenses	101 000
Activity 3.3.2. Promote simple management practices for the most widely consumed wildlife species	Hunters and gatherers report following these management practices in at least 50% of buffer zone villages.	Surveys of buffer zone villages	62000 Miscellaneous expenses	65 000
			62000 Equipment/Supplies wild species	103 200
			04000 Local Consultant	11 000
S/Total			<b>Sub total</b>	<b>280 200</b>
			<b>Sub Total Out come 3</b>	<b>1 081 900</b>

Intervention logic	Indicators	Source of Verification	Indicative Cost to collect Verification Data and Project Budgetary Line
<b>Specific Objective 4. . Improved health conditions, in particular among the neighbouring villages subject to constraints from the Reserve</b>	Mortality rate for children under 5 years reduced by 20% in at least 15 NMBR villages (measured at the level of the population and not at health centers) by end of project	Reports from the National Directorate of Health	
<b>Output 4.1. Improved medical and para-medical health care</b>	Post-treatment recovery rate in beneficiary villages increased by 15% by end-year 3, 60% by end-Y6, and 90% by end of project. Satisfaction rating by patients increased by 40% by year 3, increased by 80% by year 6, and attains a level of at least 50% by end of project in NMBR clinics	Health studies of target villages Results of satisfaction surveys	
Activity 4.1.1. Support organization of focused training for medical and para-medical staff	At least 100 health workers trained, coming from 100% of all villages of 100 persons or more	Training reports	04000 Contractual services-comp. 60 000
Activity 4.1.2. Facilitate on-going access to basic medicines	At least 50% of NMBR clinics report 'significantly improved' supplies of key medicines/drugs	Surveys of NMBR health clinics and patients	04000 Equipment (drugs) 50 000 04000 Equipment 20 000 04000 Local consultant 10 000 00311 Contractual services-Comp. 100 000 04000 Miscellaneous Expenses 5 000 00311 Equipment (Supplies drugs) 100 000 RDC Local communities 50 000
S/Total			<b>Sub total 395 000</b>
<b>Output 4.2. Increased access to health care</b>	No inhabitant further than a 2-hour walk from a functioning health centre (by year 7) The cost of basic services decreased by 20% by year 6. 60% percent of health centres offering traditional treatments by year 6; 90% offering traditional treatments by Y9	Studies on the provision of local health services	
Activity 4.2.1. Contribute to the geographic coverage of health dispensaries and clinics	At least 8 health centers constructed and equipped	Project reports	04000 Miscellaneous expenses 25 000
Activity 4.2.2. Promote better complementarity between "modern" and traditional medicines	Patients report being offered traditional cures in at least 50% of all medical cases by end-project	Surveys of NMBR health clinics and patients	04000 Contractual services-comp. 50 000 00311 Contractual services-Comp. 100 000 RDC Local community 20 000 00123 Contractual services – comp 80 000
S/Total			<b>275 000</b>
<b>Output 4.3. Increased access to potable</b>	Percentage of persons living more than 500	Studies on local water supply	

<b>Intervention logic</b>	<b>Indicators</b>	<b>Source of Verification</b>	<b>Indicative Cost to collect Verification Data and Project Budgetary Line</b>
<b>water</b>	meters from a safe water source decreased by 40% by end-year 6, and drops to <10% by end of project	(access and quality)	
Activity 4.3.1. Monitor water quality in context of changes to the environment	Monitoring stations and systems operational	Reports on water quality	62000 Contractual services-comp. 42 500 00311 Contractual services –Comp. 250 000
Activity 4.3.2. Identify sources and causes of pollution and execute the needed corrective measures	Report prepared on sources and causes of water pollution, as well as remedial action, Workshop on water pollution prevention.	Report (document) Workshop report and materials to be distributed	04000 Contractual services-comp. 10 000 04000 Professionals services 40 000 00311 Miscellaneous expenses 90 000
Activity 4.3.3. Contribute to the existing network of wells, pumps and water supply systems	Installation of >20 water sources/systems of different sizes	Project reports	04000 Contractual services-comp. 137 000 62000 Travel 15 000 00311 Contractual services-Comp. 170 000 00311 Miscellaneous expenses 80 000
S/Total			<b>Sub total 834 500</b>
<b>Output 4.4. Improved hygiene practices</b>	Occurrence of illnesses directly related to poor hygiene (diarrhea, tetanus, meningitis) decreased by 20% by end-year 6 and 40% by end of project Absence of cholera by end of project	Local health studies/statistics	
Activity 441. Support initiatives targeting public health and waste treatment	Half of all villages without waste treatment programmes in Y0 have them underway by end-Y6; 80% of all NMBR villages have them underway by end-project	Project reports; local health studies/statistics	00005 Contractual services-comp 30 000 RDC Contractual services-Comp 30 000
Activity 442. Support education in schools and public awareness initiatives on matters of hygiene	Health awareness & educational materials distributed in at least 90% of all schools and villages in the NMBR	Project reports	00311 Contractual services-Comp. 150 000 00123 Miscellaneous expenses 54 000
S/Total			<b>Sub total 264 000</b>
			<b>Sub Total Out come 4 1 768 500</b>

<b>Intervention logic</b>	<b>Indicators</b>	<b>Source of Verification</b>	<b>Indicative Cost to collect Verification Data and Project Budgetary Line</b>
<b>Specific Objective 5. Strengthened capacity of the Reserve's management structures, mainstreaming of biodiversity conservation, and contribution to national protected area system</b>	Independent evaluations (2 mid-term evaluations and 1 final evaluation) find that CEGEN is effectively managing the programme. No activity is undertaken that works against the objectives of the NMBR and the NMBR development master-plan by end of project.	Programme evaluation reports	
<b>Output 5.1. Synergy ensured between institutions and between interventions</b>	Development master-plan (or other planning documents) approved before year 6 CEGEN is effectively consulted on all projects in the NMBR beginning in Y3	Master-plan (document) Minutes of inter-institutional meetings	
Activity 5.1.1. Amend and complete the legal texts related to CEGEN	CEGEN's co-ordinating role for the NMBR formally recognised in approved legal texts by Y3	Legal texts (document)	00005 International consultant 60 000 00005 Local consultant 10 000 00311 Equipment 250 000 4000 International consultant 30 000
Activity 5.1.2. Establish and run a consultation and planning mechanism with local populations	Local consultation/planning mechanisms effectively running for every RDC or other relevant community-level division	Minutes of meetings with the target community groups	62000 UNV (national) 30 000
Activity 5.1.3. Ensure complementarity between relevant institutions	Operational inter-agency consultative mechanism for the NMBR	Minutes of inter-institutional meetings	62000 Contractual services-comp 135 000
Activity 5.1.4. Prepare a development master-plan for the Nimba Mountains Biosphere Reserve in collaboration with all stakeholders	The NMBR's development master-plan (or other planning documents) is approved by year 6	Master-plan (document)	62000 Miscellaneous Expenses 65 000
S/Total			<b>Sub total 580 000</b>
<b>Output 5.2. CEGEN's human and material resources strengthened and well managed</b>	CEGEN operating effectively at Nimba (judged by independent evaluators). CEGEN staff have the skills and are deployed in accordance with agreed capacity needs (see capacity assessments from PDF B and follow-on updates). External technical assistance needs decreased by 90% (end of programme).	Independent mid-terms reports and final evaluation  Activity reports	
Activity 5.2.1. Implement a staff training programme	Infrastructure installed CEGEN's staff in place at Nimba CEGEN's documentation center is equipped & stocked by end-year 3 95% of higher and middle level CEGEN staff	Project reports	62000 Contractual services-indiv. 108 000 62000 Contractual services-indiv. 72 000 62000 Support Services 152 000 62000 Miscellaneous expenses 5 000

<b>Intervention logic</b>	<b>Indicators</b>	<b>Source of Verification</b>	<b>Indicative Cost to collect Verification Data and Project Budgetary Line</b>	
	have received at least 2 months of training by every three years according to the detailed capacity-building plan		04000 Support Services	79 400
Activity 5.2.2. Establish a monitoring and evaluation system for CEGEN	M&E system operational M&E system producing recommendations to improve CEGEN's operations	M&E system (document) Reports from M&E system	04000 Contractual services-comp 04000 Miscellaneous expenses 00311 Miscellaneous expenses 00311 Contractual services-comp	15 000 15 000 180 000 400 000
S/Total			<b>Sub total</b>	<b>1 026 400</b>
<b>Output 5.3. An operational ecological monitoring system</b>	Trends for the principal bio-indicators are determined and fed into programmed management	Program reports (demonstrating how recommendations from the system are fed into management decisions)		
Activity 5.3.1. Establish and manage a geo-referenced database on land-use, botanical and faunal inventories and the overall ecosystem	Database structure created and tested	Print-out of data base structure and manual for the database	62000 Contractual services - indiv. 00005 Miscellaneous expenses 00005 International Consultant	72 000 55 000 30 000
Activity 5.3.2. Ensure data collection necessary for the ecological monitoring system	Baseline data at $t=0$ for the principal bio-indicators are established by end-year 2 Data on the status of the principal bio-indicators available for every subsequent year of the program	Reports from the monitoring system	62000 UNV/GIS 62000 Contractual services-comp	32 000 230 000
S/Total			<b>Sub total</b>	<b>419 000</b>
<b>Output 5.4. Guaranteed long-term funding for conservation</b>	Sustainable financing mechanism capitalised with at least \$1,000,000 by end of project with donor commitments of further funding. Locally distributed ecotourism revenues of US\$ 5000 per year by year 6, and US\$ 10,000 per year by end of project.	Articles of the mechanism Bank statement of deposits Written commitments from donors Project reports		
Activity 5.4.1. Establish a sustainable financing mechanism and Foundation (or analogue agency) for the Guinean Nimba Mountains	Sustainable financing mechanism designed by end-year 8 Sustainable financing mechanism in place by end of project	Draft articles and operational manual  Legal statutes of the mechanism	62000 Miscellaneous Expenses 62000 Travel 00005 International Consultant 00005 Local Consultant	10 000 15 000 30 000 6 000
Activity 5.4.2. Explore alternative income-	At least 3 pilot eco-tourism or other	Project reports	04000 Professional services	5 000

<b>Intervention logic</b>	<b>Indicators</b>	<b>Source of Verification</b>	<b>Indicative Cost to collect Verification Data and Project Budgetary Line</b>	
generating activities (especially eco-tourism, etc.)	ecologically based income-generating activities launched by end-year 7		00005 Travel	30 000
			00311 Miscellaneous expenses	500 000
S/Total			<b>Sub total</b>	<b>596 000</b>
<b>Output 5.5. Stakeholders better informed and aware of the issues and of resource conservation</b>	Favourable attitude towards and objectives understood for the NMBR by at least: 25% of the population older than 10 years by end-year 3 60% of the population older than 10 years by end-Y6 90% of the population older than 10 by end of project	Attitudinal surveys of the population of the NMBR		
Activity 5.5.1. Design relevant messages for stakeholders and prepare materials to distribute	Printed, verbal and radio messages drafted and tested Materials for print printed	Written drafts of messages for different media Printed materials	04000 Local Consultant /IEC	20 000
			62000 Contractual services-comp	10 000
Activity 5.5.2. Identify appropriate communication channels	Strategy/plan agreed	Written strategy/plan	62000 Miscellaneous expenses	56 000
553. Organise environmental awareness meetings	At least 20 consultations and 20 hours of radio campaigns conducted	Project reports Radio annals	04000 Miscellaneous expenses	10 000
			62000 Travel	20 000
S/Total			<b>Sub total</b>	<b>116 000</b>
<b>Output 5.6 Contribution to a national protected area system</b>	National coordination system for parks established by end of project	Written plan (and legal document?)		
Activity 5.6.1. Contribute to establishment of a national coordinating committee for Parks	Design of a national coordination system for parks established by year 8	Draft system plan (document)	04000 Local consultant	5 000
			04000 Miscellaneous Expenses	5 000
Activity 5.6.2. Evaluate CEGEN performance and consider expanding mandate to Simandou Mountain, with accompanying revision in legal texts	Evaluation report Revised statutes for CEGEN	Report (document) Statutes (document)	00005 Equipment	25 000
Activity 5.6.3. Contribute to review of policy and regulatory frameworks at national level for Protected Areas management	Study reviewing policy and regulatory frameworks for national-level protected areas management	Report (document)	04000 Professional services	20 000
S/Total			<b>Sub total</b>	<b>55 000</b>
			<b>Sub Total Out come 5</b>	<b>2 792 400</b>
<b>Total overall budget</b>				<b>11 436 900</b>

<b>Intervention logic</b>	<b>Indicators</b>	<b>Source of Verification</b>	<b>Indicative Cost to collect Verification Data and Project Budgetary Line</b>

**Part 2. Schedule of Activities (9 years).**

Objectives / Outputs / Activities	Year 1		Year 2		Year 3		Year 4		Year 5		Year 6		Year 7		Year 8		Year 9	
	1 <sup>st</sup>	2 <sup>nd</sup>	1 <sup>st</sup>	2 <sup>nd</sup>	1 <sup>st</sup>	2 <sup>nd</sup>	1 <sup>st</sup>	2 <sup>nd</sup>	1 <sup>st</sup>	2 <sup>nd</sup>	1 <sup>st</sup>	2 <sup>nd</sup>	1 <sup>st</sup>	2 <sup>nd</sup>	1 <sup>st</sup>	2 <sup>nd</sup>	1 <sup>st</sup>	2 <sup>nd</sup>
<b>Specific Objective 1. Ecological integrity assured for the three Core Areas of the Nimba Mountains Biosphere Reserve.</b>																		
<b>Output 1.1. Boundaries of the core areas recognized, legalized and demarcated</b>																		
Activity 1.1.1. Complete the process of legalizing the Core Areas		■	■	■	■	■												
Activity 1.1.2. Demarcate the boundaries of the core areas		■	■	■	■	■												
<b>Output 1.2. Dynamics of the core areas' biodiversity known, threats precisely described and management actions identified with participation of buffer zone villages</b>																		
Activity 1.2.1. Study the impact of fires, evaluate human impacts on fire dynamics and identify appropriate management responses					■	■	■	■	■	■	■	■	■	■	■	■	■	■
Activity 1.2.2. Develop a deeper understanding of the impacts of mining activities, including their possible impact on to introduced species					■	■	■	■	■	■	■	■	■	■	■	■	■	■
Activity 1.2.3. Develop a deeper understanding of conservation priorities, and identify solutions with participation of local communities					■	■	■	■	■	■	■	■	■	■	■	■	■	■
<b>Output 1.3. Decrease in incursions and illegal activities in the core areas</b>																		
Activity 1.3.1. Design, equip and organize a patrol-cum-protection system		■	■	■														
Activity 1.3.2. Involve local populations				■	■	■	■	■	■	■	■	■	■	■	■	■	■	■

Objectives / Outputs / Activities	Year 1		Year 2		Year 3		Year 4		Year 5		Year 6		Year 7		Year 8		Year 9	
	1 <sup>st</sup>	2 <sup>nd</sup>	1 <sup>st</sup>	2 <sup>nd</sup>	1 <sup>st</sup>	2 <sup>nd</sup>	1 <sup>st</sup>	2 <sup>nd</sup>	1 <sup>st</sup>	2 <sup>nd</sup>	1 <sup>st</sup>	2 <sup>nd</sup>	1 <sup>st</sup>	2 <sup>nd</sup>	1 <sup>st</sup>	2 <sup>nd</sup>	1 <sup>st</sup>	2 <sup>nd</sup>
in the protection-cum-patrol system.																		
Activity 1.3.3. Organize cooperation with public law enforcement agents.																		
<b>Output 1.4. Improved compatibility of planned mining activities, and strengthened cooperation.</b>																		
Activity 1.4.1. Monitor developments in the mining project and prepare precise environmental guidelines																		
Activity 1.4.2 Monitor compliance of mining consortium to Convention and program objectives – report to Ministry as necessary																		
<b>Output 1.5. Management plan prepared and implemented for the three core areas, with full participation of local communities</b>																		
Activity 1.5.1. Prepare and implement a management plan for the World Heritage Site, after consultations on relevant matters with the mining project, local populations and relevant authorities in the neighboring countries, and based on data collected above																		
Activity 1.5.2. Prepare and implement a management plan for the Bossou ecosystem after consultations on relevant matters with local populations and ERIB																		
Activity 1.5.3. Prepare and implement a management plan for the Déré ecosystem after consultations on relevant matters with the National Directorate for Water & Forests, Côte d’Ivoire and local populations																		

Objectives / Outputs / Activities	Year 1		Year 2		Year 3		Year 4		Year 5		Year 6		Year 7		Year 8		Year 9	
	1 <sup>st</sup>	2 <sup>nd</sup>	1 <sup>st</sup>	2 <sup>nd</sup>	1 <sup>st</sup>	2 <sup>nd</sup>	1 <sup>st</sup>	2 <sup>nd</sup>	1 <sup>st</sup>	2 <sup>nd</sup>	1 <sup>st</sup>	2 <sup>nd</sup>	1 <sup>st</sup>	2 <sup>nd</sup>	1 <sup>st</sup>	2 <sup>nd</sup>	1 <sup>st</sup>	2 <sup>nd</sup>
<b>Output 1.6. -Impacts of refugees do not affect the core areas</b>																		
Activity 1.6.1 Liaise with humanitarian agencies to ensure incorporation of environmental concerns in relief work, including establishment & sizing of camps and providing appropriate employment & income-generating activities																		
Activity 1.6.2 Develop with humanitarian agencies a refugees contingency plan in case of future refugee movements																		

Objectives / Outputs / Activities	Year 1		Year 2		Year 3		Year 4		Year 5		Year 6		Year 7		Year 8		Year 9	
	1 <sup>st</sup>	2 <sup>nd</sup>	1 <sup>st</sup>	2 <sup>nd</sup>	1 <sup>st</sup>	2 <sup>nd</sup>	1 <sup>st</sup>	2 <sup>nd</sup>	1 <sup>st</sup>	2 <sup>nd</sup>	1 <sup>st</sup>	2 <sup>nd</sup>	1 <sup>st</sup>	2 <sup>nd</sup>	1 <sup>st</sup>	2 <sup>nd</sup>	1 <sup>st</sup>	2 <sup>nd</sup>
<b>Specific Objective 2. Sustainable land use and Agricultural revenues of local people increased on the basis of more productive practices.</b>																		
<b>Output 2.1 Sustainable land use systems</b>																		
Activity 2.1.1. Develop a deeper understanding of the social and land-tenure constraints linked to agricultural intensification																		
Activity 2.1.2 Develop capacity for land use planning with local government and local communities																		
Activity 2.1.3. Develop land use plans, either for each community, or by commune, that take into account Refugee Contingency Plans																		
Activity 2.1.4 Disseminate and enforce land use system																		
<b>Output 2.2. Increased agricultural yields</b>																		
Activity 2.2.1. Support improvements in cultivation methods (soil improvements like soil																		

conservation methods, fertilizers, manures and other inputs, development of low-lying areas for irrigation, introduction of improved seed varieties, etc.)																		
<b>Output 2.3 Improved incomes from agricultural produce sold for higher prices</b>																		
Activity 2.3.1. Improve understanding of marketing channels																		
Activity 2.3.2. Improve storage techniques and how produce is marketed																		
Activity 2.3.3. Strengthen the negotiating skills of farmers' co-ops/communes/other groupings																		
Activity 2.3.4. Facilitate access to credit																		
<b>Output 2.4. Diversified income sources</b>																		
Activity 241. Promote local micro-industry																		
Activity 242. Encourage the introduction of simple processing technologies of agricultural produce																		

Objectives / Outputs / Activities	Year 1		Year 2		Year 3		Year 4		Year 5		Year 6		Year 7		Year 8		Year 9	
	1 <sup>st</sup>	2 <sup>nd</sup>	1 <sup>st</sup>	2 <sup>nd</sup>	1 <sup>st</sup>	2 <sup>nd</sup>	1 <sup>st</sup>	2 <sup>nd</sup>	1 <sup>st</sup>	2 <sup>nd</sup>	1 <sup>st</sup>	2 <sup>nd</sup>	1 <sup>st</sup>	2 <sup>nd</sup>	1 <sup>st</sup>	2 <sup>nd</sup>	1 <sup>st</sup>	2 <sup>nd</sup>
<b>Specific Objective 3. Local needs for animal protein more fully met using practices that do not damage wildlife.</b>																		
<b>Output 3.1. More productive animal husbandry, integrated with agriculture</b>																		
Activity 311. Develop the management skills of animal husbandry co-ops/communes/groupings																		
Activity 312. Facilitate access of individuals or groups raising animals to extension services and inputs																		
<b>Output 3.2. Domestication and breeding of wild animals tested and disseminated</b>																		
Activity 321. Develop a deeper understanding of past and current trials to raise wild animals in captivity																		
Activity 322. Establish animal husbandry trials for wild animals																		
Activity 323. Study the technical, economic and social feasibility of these trials																		
Activity 324. Progressively replicate breeding schemes for the most promising wild animals																		
<b>Output 3.3. Wildlife and non-timber forest resources co-managed with local populations in a sustainable manner</b>																		
Activity 331. Raise awareness of those who hunt or collect wildlife of the principles of sustainable management and of enforcement of relevant laws																		
Activity 332. Promote simple management practices for the most widely consumed wildlife species																		

Objectives / Outputs / Activities	Year 1		Year 2		Year 3		Year 4		Year 5		Year 6		Year 7		Year 8		Year 9	
	1 <sup>st</sup>	2 <sup>nd</sup>	1 <sup>st</sup>	2 <sup>nd</sup>	1 <sup>st</sup>	2 <sup>nd</sup>	1 <sup>st</sup>	2 <sup>nd</sup>	1 <sup>st</sup>	2 <sup>nd</sup>	1 <sup>st</sup>	2 <sup>nd</sup>	1 <sup>st</sup>	2 <sup>nd</sup>	1 <sup>st</sup>	2 <sup>nd</sup>	1 <sup>st</sup>	2 <sup>nd</sup>
<b>Specific Objective 4. . Improved health conditions, in particular among the neighbouring villages subject to constraints from the Reserve.</b>																		
<b>Output 4.1. Improved medical and para-medical health care</b>																		
Activity 411. Support the organization of focused training for medical and para-medical staff																		
Activity 412. Facilitate on-going access to basic medicines																		
<b>Output 4.2. Increased access to health care</b>																		
Activity 421. Contribute to the geographic coverage of health dispensaries and clinics																		
Activity 422. Promote better complementarities between “modern” and traditional medicines																		
<b>Output 4.3. Increased access to potable water</b>																		
Activity 431. Monitor water quality in light of changes to the environment																		
Activity 432. Identify sources and causes of pollution and execute the needed corrective measures																		
Activity 433. Contribute to the existing network of wells, pumps and water supply systems																		
<b>Output 4.4. Improved hygiene practises</b>																		
Activity 441. Support initiatives targeting public health and waste treatment																		
Activity 442. Support education in schools and public awareness initiatives on matters of hygiene																		

Objectives / Outputs / Activities	Year 1		Year 2		Year 3		Year 4		Year 5		Year 6		Year 7		Year 8		Year 9	
	1 <sup>st</sup>	2 <sup>nd</sup>	1 <sup>st</sup>	2 <sup>nd</sup>	1 <sup>st</sup>	2 <sup>nd</sup>	1 <sup>st</sup>	2 <sup>nd</sup>	1 <sup>st</sup>	2 <sup>nd</sup>	1 <sup>st</sup>	2 <sup>nd</sup>	1 <sup>st</sup>	2 <sup>nd</sup>	1 <sup>st</sup>	2 <sup>nd</sup>	1 <sup>st</sup>	2 <sup>nd</sup>
<b>Specific Objective 5. Strengthened capacity of the Reserve’s management structures, mainstreaming of biodiversity conservation, and contribution to national protected area system.</b>																		
<b>Output 5.1. Synergy ensured between institutions and between interventions</b>																		
Activity 511. Amend and complete the legal texts related to CEGEN																		
Activity 512. Establish and run a consultation and planning mechanism with local populations																		
Activity 513. Ensure complementarity between relevant institutions																		
Activity 514. Prepare a development master-plan for the Nimba Mountains Biosphere Reserve in collaboration with all stakeholders																		
<b>Output 5.2. CEGEN’s human and material resources strengthened and well managed</b>																		
Activity 521. Implement a staff training programme																		
Activity 522. Establish a monitoring and evaluation system for CEGEN																		
<b>Output 5.3. An operational ecological monitoring system</b>																		
Activity 531. Establish and manage a geo-referenced database on land-use, botanical and faunal inventories and the overall ecosystem																		
Activity 532. Ensure data collection necessary for the ecological monitoring system																		
<b>Output 5.4. Guaranteed long-term funding for conservation</b>																		

Objectives / Outputs / Activities	Year 1		Year 2		Year 3		Year 4		Year 5		Year 6		Year 7		Year 8		Year 9		
	1 <sup>st</sup>	2 <sup>nd</sup>	1 <sup>st</sup>	2 <sup>nd</sup>	1 <sup>st</sup>	2 <sup>nd</sup>	1 <sup>st</sup>	2 <sup>nd</sup>	1 <sup>st</sup>	2 <sup>nd</sup>	1 <sup>st</sup>	2 <sup>nd</sup>	1 <sup>st</sup>	2 <sup>nd</sup>	1 <sup>st</sup>	2 <sup>nd</sup>	1 <sup>st</sup>	2 <sup>nd</sup>	
Activity 541. Establish a sustainable financing mechanism and Foundation (or analogue agency) for the Guinean Nimba Mountains																			
Activity 542. Explore alternative income-generating activities (especially eco-tourism, etc.)																			
<b>Output 5.5. Stakeholders better informed and aware of the issues and of resource conservation</b>																			
Activity 551. Design relevant messages for stakeholders and prepare materials to distribute																			
Activity 552. Identify appropriate communication channels																			
553. Organise environmental awareness meetings																			
<b>Output 5.6 Contribution to a national protected area system</b>																			
Activity 561. Contribute to establishment of a national coordinating committee for Parks																			
Activity 562. Evaluate CEGEN performance and consider expanding mandate to Simandou Mountain, with accompanying revision in legal texts																			
Activity 563. Contribute to review of policy and regulatory frameworks at national level for Protected Areas management																			

## **SECTION III. OTHER AGREEMENTS**

### **Part 1. Additional Agreements.**

No additional agreements are available to be appended to this project document. As any are signed, they will be kept in UNDP-Guinea's project files.

The approved GEF project proposal and annexes, containing additional information on the initiative, can be accessed via <http://www.gefonline.org/projectDetails.cfm?projID=1139> .

## Part 2. Annual Work Plan.

ATLAS budget and work plan.

### 1. Budget and Work Plan (GEF, UNESCO and UNDP)

#### Total Budget and Workplan (GEF, UNESCO and UNDP)

EXPECTED Outcomes	Outputs See Logical Framework Analysis for corresponding indicators and means of verification	TIMEFRAME									RESPONSIBLE PARTY	PLANNED BUDGET			
		Yr1	Yr2	Yr3	Yr4	Yr5	Yr6	Yr7	Yr8	Yr9		Source of Funds	Budget Description	Amount	
1. Ecological integrity assured for the three Core Areas of the Nimba Mountains Biosphere Reserve	1.1. Boundaries of the core areas recognized, legalized and demarcated	X	X	X								UNDP	62000	71200 International consultant	38 000
		X	X	X								UNDP	62000	71400 Contractual services - indiv.	22 000
		X	X	X								UNDP	62000	71400 Contractual services - indiv.	30 000
		X	X									UNDP	62000	71300 Local Consultant	15 000
		X	X	X								NEX	62000	72200 Equipments (Pictograms)	20 000
	<b>Sub total</b>													<b>125 000</b>	
	1.2. Dynamics of the core areas' biodiversity known, threats precisely described and management actions identified with participation of buffer zone villages.			X	X			X				NEX	62000	72200 Equipments Supplies	30 000
				X	X							UNDP	62000	71200 International consultant	30 000
					X		X					UNDP	62000	72200 Equipments	20 000
				X								NEX	04000	72200 Equipments	20 000
					X						NEX	62000	72200 Equipment and furniture	10 000	
			X	X	X	X					UNDP	62000	72100 Contractual services - comp.	65 000	
			X			X		X	X		NEX	62000	74100 Professional Services	60 000	
			X	X	X	X					UNDP	62000	71500 UNV (national)	20 000	
								X		NEX	62000	74500 Miscellaneous Expenses	5 000		
<b>Sub total</b>													<b>260 000</b>		
1.3. Decrease in incursions and illegal activities in the core areas.		X	X	X	X						UNDP	62000	72100 Contractual services - comp.	100 000	
											UNDP	05000	72100 Contractual services - comp.	50 000	
	X										UNDP	62000	71400 Contractual services - indiv.	15 000	

		X								UNDP	04000	71400 Contractual services - indiv.	10 000
		X								UNDP	62000	71400 Contractual services - indiv.	10 000
	X									UNDP	62000	72200 Equipment	665 500
		X								UNDP	62000	73520 Support Services	60 000
		X								NEX	62000	71600 Travel	20 000
		X								UNDP	62000	71300 Local Consultant	15 000
				X	X	X				UNDP	62000	74100 Professional services	47 800
			X							UNDP	04000	74100 Professional services	20 000
					X					NEX	04000	74500 Miscellaneous expenses	20 000
			X	X						NEX	62000	74500 Miscellaneous expenses	20 000
			X							UNDP	62000	71200 International consultants	30 000
												<b>Sub total</b>	<b>1 083 300</b>
1.4. Improved compatibility of planned mining activities, and strengthened cooperation	X		X							UNDP	62000	72100 Contractual services - comp	120 000
		X								UNDP	04000	71300 Local Consultant	7 000
				X						NEX	04000	74100 Professional services	10 000
												<b>Sub total</b>	<b>137 000</b>
1.5. Management plan prepared and implemented for the three core areas, with full participation of local communities	X									UNDP	62000	73520 Support Services	50 000
	X									UNDP	04000	71300 Local Consultant	6 000
		X		X						UNDP	05000	71300 Local Consultant	13 300
	X	X								UNDP	62000	72100 Contractual services - comp.	100 000
	X	X								NEX	04000	71600 Travel	25 000
			X							NEX	62000	71600 Travel	10 000
			X							UNDP	62000	74500 Miscellaneous expenses	20 000
		X								UNDP	62000	74100 Professional Services	30 000
												<b>Sub total</b>	<b>254 300</b>
1.6. Impacts of refugees do not affect the core areas.	X		X							NEX	62000	74500 Miscellaneous expenses	30 000
	X	X								UNDP	04000	71300 Local Consultant	15 000
		X								NEX	62000	72100 Contractual services - comp.	20 000
		X								NEX	05000	72100 Contractual services - comp.	15 000
												<b>Sub total</b>	<b>80 000</b>
<b>Sub-Total Outcome 1</b>													<b>1 939 600</b>
2. Sustainable land use	2.1. Sustainable land	X	X							UNDP	62000	71200 International consultant	30 000

and agricultural revenues of local people increased on the basis of more productive practices.	use systems			X										UNDP	04000	71200 International consultant	8 000	
		X													UNDP	04000	71300 Local Consultant	5 000
			X												UNDP	04000	72100 Contractual services - comp.	30 000
			X	X	X										NEX	04000	74500 Miscellaneous expenses	40 000
			X												NEX	04000	72200 Equipments	10 000
			X												NEX	04000	72200 Equipment Supplies	5 000
				X											NEX	04000	72200 Equipment and Furnitures	10 000
	<b>Sub total</b>																	<b>138 000</b>
	2.2. Increased agricultural yields		X	X											UNDP	04000	71200 International Consult.	30 000
			X		X	X									UNDP	04000	71400 contractuel services - indiv	23 000
			X												NEX	04000	71300 Local Consultant	5 000
			X	X	X	X									UNDP	04000	72100 Contractuel services - compag	230 000
		<b>Sub total</b>																
	2.3. Improved incomes from agricultural produce sold for higher prices			X	X										NEX	04000	74500 Miscellaneous expenses	65 000
			X	X		X									UNDP	04000	72100 Contractual services-comp	60 000
															NEX	04000	74500 Miscellaneous expenses	0
			X	X		X					X				UNDP	04000	71300 Local consultant	23 000
				X	X		X								UNDP	04000	72600 Grant	130 000
				X	X		X								UNDP	62000	72600 Grant	195 000
			X												NEX	04000	71600 Travel	15 000
	<b>Sub total</b>																	<b>488 000</b>
	2.4. Diversified income sources				X	X									NEX	04000	74500 Miscellaneous expenses	35 000
					X	X	X								UNDP	04000	71500 UNV (national)	24 000
					X	X									UNDP	04000	72200 Equipment/ Procurement MFP	45 000
										X					NEX	04000	74100 Professionnel Services	10 000
		<b>Sub total</b>																
	<b>Sub-Total Outcome 2</b>																	<b>1 028 000</b>
	3. Local needs for animal protein more fully met using practices that do not damage wildlife	3.1. More productive animal husbandry, integrated with agriculture		X	X	X	X								NEX	62000	74500 Miscellaneous expenses	55 000
			X	X	X	X	X							UNDP	62000	72100 Contract services-Comp	200 000	
<b>Sub total</b>																	<b>255 000</b>	
	3.2. Domestication and		X	X	X	X	X	X						UNDP	04000	71500 UNV Veterinarian	38 000	

	breeding of wild animals tested and disseminated	X	X	X	X	X					UNDP	00005	71400 Contractual services-indv	86 000		
		X	X	X	X						UNDP	62000	71400 Contractual services-indv	26 000		
		X	X	X	X	X					UNDP	00005	71400 Contractual services-indv	24 000		
						X		X			UNDP	62000	74500 Miscellaneous Expenses	27 000		
		X	X	X	X						UNDP	00005	74500 Miscellaneous Expenses	43 700		
		X		X							UNDP	62000	72100 Contractuel services-comp.	112 000		
										X	NEX	62000	74100 Professional services	20 000		
	<b>Sub total</b>													<b>376 700</b>		
	3.3. Wildlife and non-timber forest resources co-managed with local populations in a sustainable manner	X	X	X	X	X						NEX	62000	74500 Miscellaneous expenses	101 000	
			X		X							NEX	62000	74500 Miscellaneous expenses	65 000	
			X		X							UNDP	62000	72200 Equipment/Supplies wild species	103 200	
		X	X									UNDP	04000	71300 Local Consultant	11 000	
	<b>Sub total</b>													<b>280 200</b>		
	<b>Sub-Total Outcome 3</b>														<b>911 900</b>	
4. Improved health conditions, in particular among the neighbouring villages subject to constraints from the Reserve	4.1. Improved medical and para-medical health care			X	X							UNDP	04000	72200 Equipment (drugs)	50 000	
		X			X	X						UNDP	04000	72100 Contractuel services-comp.	60 000	
							X		X			UNDP	04000	72200 Equipment	20 000	
								X				NEX	04000	74500 Miscellaneous Expenses	5 000	
				X								UNDP	04000	71300 Local consultant	10 000	
	<b>Sub total</b>													<b>145 000</b>		
	4.2. Increased access to health care				X	X							UNDP	04000	74500 Miscellaneous expenses	25 000
				X									UNDP	04000	72100 Contractual services-comp.	50 000
		<b>Sub total</b>													<b>75 000</b>	
	4.3. Increased access to potable water	X		X	X	X	X	X					UNDP	62000	72100 Contractual services-comp.	42 500
			X										UNDP	04000	72100 Contractual services-comp.	10 000
				X			X						UNDP	04000	74100 Professional services	40 000
					X								UNDP	62000	71600 Travel	15 000
		X	X	X	X	X		X					NEX	04000	72100 Contractuel services-comp.	137 000
	<b>Sub total</b>													<b>244 500</b>		
	4.4. Improved hygiene				X		X						NEX	00005	72100 Contractuel services-comp	30 000

	practices												<b>Sub total</b>	<b>30 000</b>			
<b>Sub-Total Outcome 4</b>													<b>494 500</b>				
5. Strengthened capacity of the Reserve's management structures, mainstreaming of biodiversity conservation, and contribution to national protected area system	5.1. Synergy ensured between institutions and between interventions.	X	X	X									UNDP	62000	72100 Contractual services -comp	135 000	
		X	X	X	X	X								UNDP	62000	71500 UNV (national)	30 000
		X	X											UNDP	00005	71200 International consultant	60 000
		X			X									NEX	62000	74500 Miscellaneous Expenses	65 000
			X											UNDP	00005	71300 Local consultant	10 000
	<b>Sub total</b>													<b>300 000</b>			
	5.2. CEGEN's human and material resources strengthened and well managed.	X	X	X	X	X	X	X	X	X				UNDP	62000	72100 Contractual services - indiv.	108 000
		X	X	X	X	X	X	X	X	X				UNDP	62000	72100 Contractual services - indiv.	72 000
				X			X	X	X	X				UNDP	62000	73520 Support Services	152 000
					X	X								UNDP	04000	73520 Support Services	79 400
							X							UNDP	04000	72100 Contractual services -comp	15 000
			X												04000	74500 Miscellaneous expenses	15 000
										X				NEX	62000	74500 Miscellaneous expenses	5 000
		<b>Sub total</b>													<b>446 400</b>		
	5.3. An operational ecological monitoring system	X	X	X										UNDP	62000	71400 Contractual services - indiv.	72 000
		X	X											NEX	00005	74500 Miscellaneous expenses	55 000
		X	X	X	X	X	X							UNDP	62000	71500 UNV/GIS	32 000
		X	X	X	X	X								UNDP	62000	72100 Contractual services -comp	230 000
								X						NEX	00005	71200 International Consultant	30 000
	<b>Sub total</b>													<b>419 000</b>			
	5.4. Guaranteed long-term funding for conservation						X							UNDP	00005	713000 Local Consultant	6 000
								X						UNDP	62000	74500 Miscellaneous Expenses	10 000
								X						NEX	04000	74100 Professional services	5 000
								X						UNDP	62000	74600 Travel	15 000
									X					UNDP	00005	74600 Travel	30 000
									X					NEX	00005	71200 International Consultant	30 000
	<b>Sub total</b>													<b>96 000</b>			
	5.5. Stakeholders better informed and aware of the issues and of resource conservation	X	X	X										UNDP	04000	71300 Local Consultant /IEC	20 000
X		X		X	X	X	X	X					NEX	62000	74500 Miscellaneous expenses	56 000	
			X						X				NEX	04000	74500 Miscellaneous expenses	10 000	
			X										UNDP	62000	72100 Contractual services -comp	10 000	

		X								UNDP	62000	71600 Travel	20 000
												<b>Sub total</b>	<b>116 000</b>
	5.6. Contribution to a national protected area system						X			UNDP	04000	71300 Local consultant	5 000
								X		NEX	04000	74500 Miscellaneous Expenses	5 000
								X		UNDP	00005	72200 Equipment	25 000
									X	NEX	04000	74100 Professional services	20 000
												<b>Sub total</b>	<b>55 000</b>
<b>Sub-Total Outcome 5</b>													<b>1 432 400</b>
<b>Total Budget (GEF, UNESCO &amp; UNDP)</b>													<b>5 806 400</b>

<b>BUDGET UNDP</b>	<b>1 646 400</b>
<b>BUDGET GEF</b>	<b>3 660 000</b>
<b>BUDGET UNESCO</b>	<b>500 000</b>
<b>Total 1</b>	<b>5 806 400</b>
<b>BUDGET MINING</b>	<b>4 500 000</b>
<b>Total 2</b>	<b>10 306 400</b>
FFI	200 000
GVT	830 500
CL	100 000
<b>TOTAL GLOBAL</b>	<b>11 436 900</b>

Year 1

EXPECTED Outcomes	Outputs See Logical Framework Analysis for corresponding indicators and means of verification	TIMEFRAME				RESPONSIBLE PARTY	PLANNED BUDGET		
		Q1	Q2	Q3	Q4		Source of Funds	Budget Description	Amount
1. Ecological integrity assured for the three Core Areas of the Nimba Mountains Biosphere Reserve	1.1. Boundaries of the core areas recognized, legalized and demarcated		x			UNDP	62000	71200 International consultant	15 000
		x	x	x	x	UNDP	62000	71400 Contractual services - indiv.	9 000
		x	x	x	x	UNDP	62000	71400 Contractual services - indiv.	10 000
				x		UNDP	62000	71300 Local Consultant	5 000
				x	x	NEX	62000	72200 Equipments (Pictograms)	10 000
	<b>Sub total</b>								<b>49 000</b>
	1.3. Decrease in incursions and illegal activities in the core areas.		x	x	x	UNDP	62000	72100 Contractual services - comp.	30 000
		x	x	x	x	UNDP	62000	71400 Contractual services - indiv.	15 000
		x	x	x	x	UNDP	62000	72200 Equipment	665 500
	<b>Sub total</b>								<b>710 500</b>
	1.4. Improved compatibility of planned mining activities, and strengthened cooperation		x	x	x	UNDP	62000	72100 Contractual services - comp	50 000
		<b>Sub total</b>							
	1.5. Management plan prepared and implemented for the three core areas, with full participation of local communities	x	x	x	x	UNDP	62000	73520 Support Services	50 000
			x	x		UNDP	04000	71300 Local Consultant	6 000
				x	x	UNDP	62000	72100 Contractual services - comp.	70 000
		x	x	x	x	NEX	04000	71600 Travel	15 000
	<b>Sub total</b>								<b>141 000</b>
	1.6. Impacts of refugees do not affect the core areas	x	x	x	x	NEX	62000	74500 Miscellaneous expenses	20 000
			x	x		UNDP	04000	71300 Local Consultant	10 000
	<b>Sub total</b>								<b>30 000</b>
<b>Sub-Total Outcome 1</b>								<b>980 500</b>	
2. Sustainable land use and agricultural revenues of local people increased on the basis of more productive practices.	2.1. Sustainable land use systems.		x			UNDP	62000	71200 International consultant	15 000
			x	x		UNDP	04000	71300 Local Consultant	5 000
	<b>Sub total</b>								<b>20 000</b>

<b>Sub-Total Outcome 2</b>								<b>20 000</b>	
3. Local needs for animal protein more fully met using practices that do not damage wildlife	3.3. Wildlife and non-timber forest resources co-managed with local populations in a sustainable manner.	x	x	x	x	NEX	62000	74500 Miscellaneous expenses	16 000
				x	x	UNDP	04000	71300 Local Consultant	5 000
								<b>Sub total</b>	<b>21 000</b>
<b>Sub-Total Outcome 3</b>								<b>21 000</b>	
4. Improved health conditions, in particular among the neighbouring villages subject to constraints from the Reserve	4.3. Increased access to potable water	x	x	x	x	UNDP	62000	71400 Contractual services - indiv.	8 000
			x	x	x	NEX	04000	72100 Contractual services - comp	30 000
								<b>Sub total</b>	<b>38 000</b>
<b>Sub-Total Outcome 4</b>								<b>38 000</b>	
5. Strengthened capacity of the Reserve's management structures, mainstreaming of biodiversity conservation, and contribution to national protected area system	5.1. Synergy ensured between institutions and between interventions		x	x	x	UNDP	62000	72100 Contractual services - comp	35 000
			x	x	x	UNDP	62000	71500 UNV (national)	6 000
			x			UNDP	00005	71200 Internat. consultant	30 000
		x	x	x	x	NEX	62000	74500 Miscellaneous Expenses	45 000
								<b>Sub total</b>	<b>116 000</b>
	5.2. CEGEN's human and material resources strengthened and well managed.	x	x	x	x	UNDP	62000	71400 Contractuel servies-indiv.	12 000
		x	x	x	x	UNDP	62000	71400 Contractuel services-indv	8 000
								<b>Sub total</b>	<b>20 000</b>
	5.3. An operational ecological monitoring system	x	x	x	x	UNDP	62000	71400 Contractual services - indiv.	10 000
		x	x	x	x	NEX	00005	74500 Miscellaneous Expenses	25 000
			x	x	x	UNDP	62000	72100 Contractual services - comp.	50 000
			x	x	x	UNDP	62000	71500 UNV/GIS	6 000
			x	x	x	UNDP	62000	72100 Contractual services - comp.	20 000
								<b>Sub total</b>	<b>111 000</b>
	5.5. Stakeholders better informed and aware of the	x	x	x	x	UNDP	62000	71600 Travel	20 000
		x	x			UNDP	04000	71300 Local Consultant/IEC	5 000

	issues and of resource conservation	x	x	x	x	NEX	62000	74500 Miscellaneous Expenses	6 000
								<b>Sub total</b>	<b>31 000</b>
<b>Sub-Total Outcome</b>									<b>278 000</b>
<b>5</b>									
<b>TOTAL YEAR 1</b>									<b>1 337 500</b>

Year 2

EXPECTED Outcomes	Outputs See Logical Framework	TIMEFRAME	RESPONSIBLE	PLANNED BUDGET
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	Anlaysis for corresponding indicators and means of verification	Q1	Q2	Q3	Q4	PARTY	Source of Funds	Budget Description	Amount	
1. Ecological integrity assured for the three Core Areas of the Nimba Mountains Biosphere Reserve	1.1. Boundaries of the core areas recognized, legalized and demarcated			X		UNDP	62000	71200 International consultant	15 000	
		X	X	X	X	UNDP	62000	71400 Contractual services - indiv.	9 000	
		X	X	X	X	UNDP	62000	71400 Contractual services - indiv.	10 000	
		X	X			UNDP	62000	71300 Local Consultant	10 000	
		X				NEX	62000	72200 Equipments (Pictograms)	5 000	
	<b>Sub total</b>								<b>49 000</b>	
	1.3. Decrease in incursions and illegal activities in the core areas.	x	x	x	x	UNDP	04000	71400 Contractual services - indiv.	10 000	
		x	x	x	x	UNDP	62000	71400 Contractual services - indiv.	10 000	
		x	x	x	x	UNDP	62000	73520 Support Services	60 000	
		x	x	x	x	NEX	62000	71600 Travel	20 000	
		x	x	x	x	UNDP	05000	72100 Contractual services - comp.	50 000	
		x	x			UNDP	62000	71300 Local Consultant	15 000	
		<b>Sub total</b>								<b>165 000</b>
	1.4. Improved compatibility of planned mining activities, and strengthened cooperation		x	x		UNDP	04000	71300 Local Consultant	7 000	
		<b>Sub total</b>								<b>7 000</b>
	1.5. Management plan prepared and implemented for the three core areas, with full participation of local communities		x	x		UNDP	05000	71300 Local Consultant	6 000	
		x	x	x	x	UNDP	62000	74100 Professional Services	30 000	
		x	x	x	x	UNDP	62000	72100 Contractual services - comp.	30 000	
		x	x	x	x	NEX	04000	71600 Travel	10 000	
	<b>Sub total</b>								<b>76 000</b>	
	1.6. Impacts of refugees do not affect the core areas	x	x	x		NEX	05000	72100 Contractual services - comp.	15 000	
		x	x	x		NEX	62000	72100 Contractual services - comp.	20 000	
			x	x		UNDP	04000	71300 Local Consultant	5 000	
	<b>Sub total</b>								<b>40 000</b>	
	<b>Sub-Total Outcome 1</b>								<b>337 000</b>	
	2. Sustainable land use and agricultural revenues of local people increased on the basis of more productive	2.1. Sustainable land use systems				x	UNDP	62000	71200 International consultant	15 000
			x	x	x	x	UNDP	04000	72100 Contractual services - comp.	30 000
x			x	x	x	NEX	04000	74500 Miscellaneous expenses	20 000	
x			x	x	x	NEX	04000	72200 Equipments	10 000	

practices.							<b>Sub total</b>	<b>75 000</b>	
	2.2. Increased agricultural yields	-	x	-	-	UNDP	04000	71200 International Consult.	15 000
		x	x	x	x	UNDP	04000	71400 contractuel services - indiv	8 000
		-	x	x	-	NEX	04000	71300 Local Consultant	5 000
		x	x	x	x	UNDP	04000	72100 Contractuel services - compag	80 000
		-	-	-				<b>Sub total</b>	<b>108 000</b>
	2.3. Improved incomes from agricultural produce sold for higher prices	x	x	x	x	NEX	04000	72100 contractuel services - comp	20 000
		x	x	x	x	NEX	04000	71600 Travel	15 000
		-	-	x	x	UNDP	04000	71300 Local Consultant	5 000
			-	-	-				<b>Sub total</b>
<b>Sub-Total Outcome 2</b>								<b>223 000</b>	
3. Local needs for animal protein more fully met using practices that do not damage wildlife	3.1. More productive animal husbandry, integrated with agriculture	x	x	x	x	NEX	62000	74500 Miscellaneous expenses	5 000
		x	x	x	x	UNDP	62000	72100 Contract services -Comp	20 000
			-	-	-				<b>Sub total</b>
	3.2. Domestication and breeding of wild animals tested and disseminated	x	x	x	x	UNDP	04000	71500 UNV Veterinarian	6 000
		x	x	x	x	UNDP	62000	72100 Contractuel services-comp.	30 000
		x	x	x	x	UNDP	00005	71400 Contractuel services-indv	10 000
		x	x	x	x	UNDP	00005	74500 Miscellaneous Expenses	13 700
		x	x	x	x	UNDP	62000	71400 Contractual services-indiv	10 000
		x	x	x	x	UNDP	62000	72100 Contractuel services-comp.	50 000
		x	x	x	x	UNDP	00005	71400 Contractual Services - indiv	4 000
		-	-	-				<b>Sub total</b>	<b>123 700</b>
	3.3. Wildlife and non-timber forest resources co-managed with local populations in a sustainable manner	x	x	x	x	NEX	62000	74500 Miscellaneous Expenses	10 000
		x	x	x	x	UNDP	62000	74500 Miscellaneous Expenses	20 000
		x	x	x	x	UNDP	62000	72500 Supplies wild species	30 000
		x	x	-	-	UNDP	04000	71300 Local consultant	6 000
	-	-	-				<b>Sub total</b>	<b>66 000</b>	
<b>Sub-Total Outcome 3</b>								<b>214 700</b>	
4. Improved health conditions, in particular among the neighbouring villages subject to constraints from the Reserve	4.1. Improved medical and para-medical health care	x	x	x	x	UNDP	04000	72100 Contractuel services-comp.	15 000
			-	-	-				<b>Sub total</b>
	4.3. Increased access to potable water	x	x	x	x	UNDP	04000	71400 Contractuel services-indv	10 000
		x	x	x	x	NEX	04000	72100 Contractuel services-comp.	20 000
		x	x	x	x	NEX	04000	72100 Contractuel services-comp.	15 000
	-	-	-				<b>Sub total</b>	<b>45 000</b>	

<b>Sub-Total Outcome 4</b>								<b>60 000</b>	
5. Strengthened capacity of the Reserve's management structures, mainstreaming of biodiversity conservation, and contribution to national protected area system	5.1. Synergy ensured between institutions and between interventions.	x	x	x	x	UNDP	62000	72100 Contractual services-comp	50 000
		x	x	x	x	UNDP	62000	71500 UNV (national)	6 000
		-	-	x		UNDP	00005	71200 Internat. Consultant	30 000
		-	x	x		UNDP	00005	71300 Local consultant	10 000
	<b>Sub total</b>								<b>96 000</b>
	- - -								
	5.2. CEGEN's human and material resources strengthened and well managed.	x	x	x	x	UNDP	62000	71400 Contractuel servies-indiv.	12 000
		x	x	x	x	UNDP	62000	71400 Contractuel services-indv	8 000
		x	x	x	x	NEX	04000	74500 Miscellaneous expenses	15 000
		<b>Sub total</b>							
	- - -								
	5.3. An operational ecological monitoring system	x	x	x	x	UNDP	62000	71400 Contractual services - indiv.	10 000
		x	x	x	x	NEX	00005	74500 Miscellaneous expenses	30 000
		x	x	x	x	UNDP	62000	71500 UNV/GIS	6 000
		x	x	x	x	UNDP	62000	72100 Contractual services-comp	20 000
		<b>Sub total</b>							
	- - -								
	5.5. Stakeholders better informed and aware of the issues and of resource conservation	-		x	x	UNDP	04000	71300 Local Consultant /IEC	10 000
		x	x	x	x	NEX	62000	74500 Miscelaneous expenses	10 000
		<b>Sub total</b>							
- - -									
<b>Sub-Total Outcome 5</b>								<b>217 000</b>	
<b>TOTAL YEAR 2</b>								<b>1 051 700</b>	

Year 3

EXPECTED Outcomes	Outputs See Logical Framework Analysis for corresponding indicators and means of verification	TIMEFRAME				RESPONSIBLE PARTY	PLANNED BUDGET			
		Q1	Q2	Q3	Q4		Source of Funds	Budget Description	Amount	
1. Ecological integrity assured for the three Core Areas of the Nimba Mountains Biosphere Reserve	1.1. Boundaries of the core areas recognized, legalized and demarcated				X	UNDP	62000	71200 International consultant	8 000	
		X	X	X	X	UNDP	62000	71400 Contractual services - indiv.	4 000	
		X	X	X	X	UNDP	62000	71400 Contractual services - indiv.	10 000	
		X	X	X	X	NEX	62000	72200 Equipments (Pictograms)	5 000	
		<b>Sub total</b>								
	1.2. Dynamics of the core areas' biodiversity known, threats precisely described and management actions identified with participation of buffer zone villages.	x	x	x	x	NEX	62000	72200 Equipments Supplies	10 000	
			x			UNDP	62000	71200 International consultant	15 000	
		x	x	x	x	UNDP	04000	72200 Equipments	20 000	
		x	x	x	x	UNDP	62000	72100 Contractual services - comp.	25 000	
		x	x	x	x	UNDP	62000	74100 Professional Services	30 000	
		x	x	x	x	UNDP	62000	71500 UNV (national)	8 000	
		<b>Sub total</b>								
	1.3. Decrease in incursions and illegal activities in the core areas.	x	x	x	x	UNDP	62000	72100 Contractuel services - compagnie	50 000	
		x	x	x	x	UNDP	04000	74100 Profesional services	20 000	
		x	x	x	x	NEX	62000	74500 Miscellaneous expenses	10 000	
		x				UNDP	62000	71200 International consultants	30 000	
		<b>Sub total</b>								
	1.4. Improved compatibility of planned mining activities, and strengthened cooperation	x	x	x	x	UNDP	62000	72100 Contractuel services - compagnie	70 000	
		<b>Sub total</b>								
	1.5. Management plan prepared and implemented for the three core areas, with full participation of local communities	x	x	x	x	UNDP	62000	74500 Miscellaneous expenses	20 000	
		x	x	x	x	NEX	62000	71600 Travel	10 000	
		<b>Sub total</b>								
	1.6. Impacts of refugees do not affect the core areas	x	x	x	x	NEX	62000	74500 Miscellaneous expenses	10 000	
		<b>Sub total</b>								
	<b>Sub-Total Outcome 1</b>								<b>355 000</b>	
	2. Sustainable land use and agricultural revenues of local people increased on the basis	2.1. Sustainable land use systems			x		UNDP	04000	71200 International consultants	8 000
			x	x	x	x	NEX	04000	74500 Miscellaneous expenses	10 000

of more productive practices.		x	x	x	x	NEX	04000	72200 Equipment and Furnitures	10 000	
		<b>Sub total</b>								<b>28 000</b>
	2.2. Increased agricultural yields	-	-	x	-	UNDP	04000	71200 International consultants	15 000	
		x	x	x	x	UNDP	04000	72100 Contractuel services - compagnie	30 000	
		x	x	x	x	UNDP	04000	72100 Contractual services - compagnie	70 000	
		<b>Sub total</b>								<b>115 000</b>
	2.3. Improved incomes from agricultural produce sold for higher prices	x	x	x	x	NEX	04000	74500 Miscellaneous expenses	15 000	
		x	x	x	x	UNDP	04000	72100 Contractual services - compagnie	10 000	
		x	x	x	x	NEX	04000	74500 Miscellaneous expenses	30 000	
		x	x		-	UNDP	04000	71300 Local consultant	5 000	
x		-	-	-	UNDP	04000	72600 Grant	50 000		
x		-	-	-	UNDP	62000	72600 Grant	50 000		
<b>Sub total</b>								<b>160 000</b>		
<b>Sub-Total Outcome 2</b>									<b>303 000</b>	
3. Local needs for animal protein more fully met using practices that do not damage wildlife	3.1. More productive animal husbandry, integrated with agriculture	x	x	x	x	NEX	62000	74500 Miscellaneous expenses	30 000	
		x	x	x	x	UNDP	62000	72100 Contract services-Comp	100 000	
		<b>Sub total</b>								<b>130 000</b>
	3.2. Domestication and breeding of wild animals tested and disseminated	x	x	x	x	UNDP	04000	71500 UNV Veterinian	6 000	
		x	x	x	x	UNDP	62000	71400 Contractuel services-indv	8 000	
		x	x	x	x	UNDP	00005	71400 Contractuel services-indv	8 000	
		-	-	-		UNDP	00005	74500 Miscellaneous Expenses	10 000	
		x	x	-		UNDP	62000	71400 Contractual services-indiv	2 000	
		<b>Sub total</b>								<b>34 000</b>
	3.3. Wildlife and non-timber forest resources co-managed with local populations in a sustainable manner	x	x	x	x	NEX	62000	74500 Miscellaneous Expenses	20 000	
		<b>Sub total</b>								<b>20 000</b>
	<b>Sub-Total Outcome 3</b>									<b>184 000</b>
	4. Improved health conditions, in particular among the neighbouring villages subject to constraints from the Reserve	4.1. Improved medical and para-medical health care	x	x	x	x	UNDP	04000	72200 Equipment (drugs)	30 000
x			x	x	x	UNDP	04000	71300 Local consultant	10 000	
<b>Sub total</b>								<b>40 000</b>		
4.2. Increased access to health care		x	x	x	x	UNDP	04000	72100 Contractuel services - comp.	50 000	
		<b>Sub total</b>								<b>50 000</b>

	4.3. Increased access to potable water	x	x	x	x	UNDP	62000	71400 Contractuel services-indv	8 000
		x	x	x	x	UNDP	04000	74100 Profesional services	20 000
		x	x	x	x	NEX	4000	72100 Contractuel services-comp.	30000
		-	-	-	-			<b>Sub total</b>	<b>58 000</b>
<b>Sub-Total Outcome 3</b>									<b>148 000</b>
5. Strengthened capacity of the Reserve's management structures, mainstreaming of biodiversity conservation, and contribution to national protected area system	5.1. Synergy ensured between institutions and between interventions.	x	x	x	x	UNDP	62000	72100 Contractual services-comp	50 000
		x	x	x	x	UNDP	62000	71500 UNV (national)	6 000
		-	-	-	-			<b>Sub total</b>	<b>56 000</b>
	5.2. CEGEN's human and material resources strengthened and well managed.	x	x	x	x	UNDP	62000	71400 Contractuel servies-indiv.	12 000
		x	x	x	x	UNDP	62000	71400 Contractuel services-indv	8 000
		x	x	x	x	UNDP	62000	73520 Support Services	72 000
		-	-	-	-			<b>Sub total</b>	<b>92 000</b>
	5.3. An operational ecological monitoring system	x	x	x	x	UNDP	62000	71400 Contractual services - indiv.	52 000
		x	x	x	x	UNDP	62000	71500 UNV/GIS	6 000
		x	x	x	x	UNDP	62000	72100 Contractual services-comp	50 000
		-	-	-	-			<b>Sub total</b>	<b>108 000</b>
	5.5. Stakeholders better informed and aware of the issues and of resource conservation	x	x	x	x	UNDP	62000	72100 Contractual services-comp	10000
		-	x	x		UNDP	04000	71300 Local Consultant /IEC	5 000
		x	x	x	x	UNDP	04000	74500 Miscelaneous expenses	5 000
		-	-	-	-			<b>Sub total</b>	<b>20 000</b>
	<b>Sub-Total Outcome 5</b>								
<b>TOTAL YEAR 3</b>									<b>1 266 000</b>

Year 4

EXPECTED Outcomes	Outputs See Logical Framework	TIMEFRAME	RESPONSIBLE	PLANNED BUDGET
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	Analysis for corresponding <u>indicators</u> and <u>means of verification</u>	Q1	Q2	Q3	Q4	PARTY	Source of Funds	Budget Description	Amount
1. Ecological integrity assured for the three Core Areas of the Nimba Mountains Biosphere Reserve	1.2. Dynamics of the core areas' biodiversity known, threats precisely described and management actions identified with participation of buffer zone villages.	x	x	x	x	NEX	62000	72200 Equipment Supplies	10 000
			x			UNDP	62000	71200 International Consultant	15 000
		x	x	x	x	UNDP	62000	72200 Equipment	10 000
		x	x	x	x	UNDP	62000	72100 Contractuel services-comp	10 000
		x	x	x	x	UNDP	62000	71500 UNV (national)	4 000
	<b>Sub total</b>								<b>49 000</b>
	1.3. Decrease in incursions and illegal activities in the core areas.	x	x	x	x	UNDP	62000	72100 Contractuel services-comp	20 000
		x	x	x	x	UNDP	62000	74100 Professional services	18 900
		x	x	x	x	NEX	62000	74500 Miscellaneous expenses	10 000
	<b>Sub total</b>								<b>48 900</b>
	1.4. Improved compatibility of planned mining activities, and strengthened cooperation	x	x	x	x	NEX	04000	74100 Professional services	10 000
		<b>Sub total</b>							
	1.5. Management plan prepared and implemented for the three core areas, with full participation of local communities	x	x			UNDP	00005	71300 Local consultant	7 300
		<b>Sub total</b>							
	<b>Sub-Total Outcome 1</b>								
2. Sustainable land use and agricultural revenues of local people increased on the basis of more productive practices.	2.1. Sustainable land use systems	x	x	x	x	NEX	04000	74500 Miscellaneous expenses	10 000
		x	x	x	x	NEX	04000	72200 Equipment Supplies	5 000
	<b>Sub total</b>								<b>15 000</b>
	2.2. Increased agricultural yields	x	x	x	x	UNDP	04000	74100 Contractuel services-comp	20 000
		x	x	x	x	NEX	04000	72100 Contractual services - indiv.	8 000
		<b>Sub total</b>							
	2.3. Improved incomes from agricultural produce sold for higher prices	x	x	x	x	NEX	04000	74500 Miscellaneous expenses	20 000
			x			UNDP	04000	72600 Grant	50 000
			x			UNDP	62000	72600 Grant	70 000
	<b>Sub total</b>								<b>140 000</b>
	2.4. Diversified income sources	x	x	x	x	NEX	04000	74500 Miscellaneous expenses	15 000
		x	x	x	x	UNDP	04000	71500 UNV (national)	12 000
		x	x	x	x	UNDP	04000	72200 Equipment/ Procurement MFP	20 000
x		x	x	x	NEX	04000	74500 Miscellaneous expenses	10 000	

							<b>Sub total</b>	<b>57 000</b>		
<b>Sub-Total Outcome 2</b>								<b>240 000</b>		
3. Local needs for animal protein more fully met using practices that do not damage wildlife	3.1. More productive animal husbandry, integrated with agriculture	x	x	x	x	NEX	62000	74500 Miscellaneous expenses	10 000	
		x	x	x	x	UNDP	62000	72100 Contractuel services-comp	30 000	
		<b>Sub total</b>								<b>40 000</b>
	3.2. Domestication and breeding of wild animals tested and disseminated		x	x	x	x	UNDP	04000	71500 UNV Veterinarian	12 000
							UNDP	62000	72100 Contractuel services-comp	32 000
			x	x	x	x	UNDP	00005	71400 Contractuel services-indiv	52 000
							UNDP	00005	74500 Miscellaneous expenses	10 000
			x	x	x	x	UNDP	62000	71400 Contractuel services-indiv	8 000
	<b>Sub total</b>								<b>114 000</b>	
	3.3. Wildlife and non-timber forest resources co-managed with local populations in a sustainable manner		x	x	x	x	UNDP	62000	74500 Miscellaneous expenses	30 000
			x	x	x	x	NEX	62000	74500 Miscellaneous expenses	45 000
			x	x	x	x	UNDP	62000	72200 Equipment/Supplies wild species	73 200
			<b>Sub total</b>							
<b>Sub-Total Outcome 3</b>								<b>302 200</b>		
4. Improved health conditions, in particular among the neighbouring villages subject to constraints from the Reserve	4.1. Improved medical and para-medical health care	x	x	x	x	UNDP	04000	72100 Contractuel services-comp	20 000	
		x	x	x	x	UNDP	04000	72200 Equipment/ Supplies drugs	20 000	
		<b>Sub total</b>								<b>40 000</b>
	4.2. Increased access to health care		x	x	x	x	UNDP	04000	74500 Miscellaneous expenses	10 000
			<b>Sub total</b>							
	4.3. Increased access to potable water		x	x	x	x	UNDP	62000	71600 Travel	15 000
			x	x	x	x	UNDP	62000	71400 Contractuel services-indv	8 000
			x	x	x	x	NEX	04000	72100 Contractuel services-comp	16 000
	<b>Sub total</b>								<b>39 000</b>	
	4.4. Improved hygiene practices		x	x	x	x	NEX	00005	72100 Contractuel services-comp	15 000
			<b>Sub total</b>							
	<b>Sub-Total Outcome 4</b>								<b>104 000</b>	
	5. Strengthened capacity of the Reserve's management structures, mainstreaming of biodiversity conservation, and	5.1. Synergy ensured between institutions and between interventions.	x	x	x	x	UNDP	62000	71500 UNV (national)	6 000
x			x	x	x	NEX	62000	74500 Miscellaneous expenses	20 000	
<b>Sub total</b>								<b>26 000</b>		
5.2. CEGEN's human and material resources strengthened			x	x	x	x	UNDP	62000	71400 Contractuel services-indiv	12 000
			x	x	x	x	UNDP	62000	71400 Contractuel services-indiv	8 000

contribution to national protected area system	and well managed.	x	x	x	x	NEX	04000	73520 Support Services	50 000
	<b>Sub total</b>								<b>70 000</b>
	5.3. An operational ecological monitoring system	x	x	x	x	UNDP	62000	72100 Contractuel services-comp	50 000
		x	x	x	x	UNDP	62000	71500 UNV/GIS	6 000
		x	x	x	x	UNDP	62000	72100 Contractuel services-comp	20 000
	<b>Sub total</b>								<b>76 000</b>
	5.5. Stakeholders better informed and aware of the issues and of resource conservation	x	x	x	x	NEX	62000	74500 Miscellaneous expenses	10000
		<b>Sub total</b>							
	<b>Sub-Total Outcome 5</b>								<b>182 000</b>
	<b>TOTAL YEAR 4</b>								<b>\$ 943 400</b>

Year 5

EXPECTED Outcomes	Outputs See Logical Framework Anlysis for corresponding indicators and	TIMEFRAME	RESPONSIBLE PARTY	PLANNED BUDGET
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	<u>means of verification</u>	Q1	Q2	Q3	Q4		Source of Funds	Budget Description	Amount	
1. Ecological integrity assured for the three Core Areas of the Nimba Mountains Biosphere Reserve	1.2. Dynamics of the core areas' biodiversity known, threats precisely described and management actions identified with participation of buffer zone villages.	x	x	x	x	NEX	62000	72200 Equipment and furniture	10 000	
		x	x	x	x	UNDP	62000	72200 Contractuel services - comp	15 000	
		x	x	x	x	UNDP	62000	71500 UNV (national)	4 000	
								<b>Sub total</b>	<b>29 000</b>	
	1.3. Decrease in incursions and illegal activities in the core areas.	x	x	x	x	UNDP	62000	74100 Professional services	10 000	
		x	x	x	x	NEX	04000	74500 Miscellaneous	20 000	
								<b>Sub total</b>	<b>30 000</b>	
<b>Sub-Total Outcome 1</b>									<b>59 000</b>	
	2.2. Increased agricultural yields					UNDP	04000	71200 International Consultant		
		x	x	x	x	UNDP	04000	72100 Contractuel services - comp	30 000	
		x	x	x	x	UNDP	04000	72100 Contractuel services - indiv.	7 000	
								<b>Sub total</b>	<b>37 000</b>	
	2.3. Improved incomes from agricultural produce sold for higher prices		x	x			UNDP	04000	71300 Local Consultant	8 000
		x	x	x	x	UNDP	04000	72100 Contractuel services - comp	30 000	
								<b>Sub total</b>	<b>38 000</b>	
	2.4. Diversified income sources	x	x	x	x	UNDP	04000	71300 UNV (national)	6 000	
		x	x	x	x	UNDP	04000	Procurement/ Equipment MFP	25 000	
		x	x	x	x	NEX	04000	74500 Miscellaneous expenses	10 000	
								<b>Sub total</b>	<b>41 000</b>	
	<b>Sub-Total Outcome 2</b>									<b>116 000</b>
3. Local needs for animal protein more fully met using practices that do not damage wildlife	3.1. More productive animal husbandry, integrated with agriculture	x	x	x	x	NEX	62000	74500 Miscellaneous expenses	10 000	
		x	x	x	x	UNDP	62000	72100 Contractuel services - comp	30 000	
								<b>Sub total</b>	<b>40 000</b>	
	3.2. Domestication and breeding of wild animals tested and disseminated	x	x	x	x	UNDP	04000	71500 UNV Veterinarian	6 000	
		x	x	x	x	UNDP	00005	71400 Contractue services - indiv	8 000	
						UNDP	00005	74500 Miscellaneous expenses	10 000	
		x	x	x	x	UNDP	62000	71400 Contractue services - indiv	6 000	
		x	x	x	x	UNDP	62001	71400 Contractue services - indiv	8 000	
								<b>Sub total</b>	<b>38 000</b>	

	3.3. Wildlife and non-timber forest resources co-managed with local populations in a sustainable manner	x	x	x	x	NEX	62000	74500 Miscellaneous expenses	25 000
		<b>Sub total</b>							<b>25 000</b>
<b>Sub-Total Outcome 3</b>									<b>103 000</b>
4. Improved health conditions, in particular among the neighbouring villages subject to constraints from the Reserve	4.1. Improved medical and para-medical health care	x	x	x	x	UNDP	04000	72100 Contractuel services - comp	25 000
		<b>Sub total</b>							<b>25 000</b>
	4.2. Increased access to health care	x	x	x	x	NEX	04000	74500 Miscellaneous expenses	15 000
		<b>Sub total</b>							<b>15 000</b>
	4.3. Increased access to potable water	x	x	x	x	NEX	04000	72100 Contractuel services - comp	16 000
		x	x	x	x	UNDP	62000	71400 Contractuel services - indiv	8 000
	<b>Sub total</b>							<b>16 000</b>	
<b>Sub-Total Outcome 4</b>									<b>56 000</b>
5. Strengthened capacity of the Reserve's management structures, mainstreaming of biodiversity conservation, and contribution to national protected area system	5.1. Synergy ensured between institutions and between interventions.	x	x	x	x	UNDP	62000	71500 UNV (national)	6 000
		<b>Sub total</b>							<b>6 000</b>
	5.2. CEGEN's human and material resources strengthened and well managed.	x	x	x	x	UNDP	62000	71400 Contractue services - indiv	12 000
		x	x	x	x	UNDP	62000	71400 Contractue services - indiv	8 000
		x	x	x	x	NEX	04000	73520 Support Services	29 400
		<b>Sub total</b>							<b>49 400</b>
	5.3. An operational ecological monitoring system	x	x	x	x	UNDP	62000	71500 UNV/GIS	6 000
		x	x	x	x	UNDP	62000	72100 Contractuel services - comp	20 000
		<b>Sub total</b>							<b>26 000</b>
	5.5. Stakeholders better informed and aware of the issues and of resource conservation	x	x	x	x	NEX	62000	74500 Miscellaneous expenses	10 000
<b>Sub total</b>							<b>10 000</b>		
<b>Sub-Total Outcome 5</b>									<b>91 400</b>
								<b>TOTAL YEAR 5</b>	<b>\$ 425 400</b>

Year 6

EXPECTED Outcomes	Outputs See Logical Framework Anlysis for corresponding indicators and means of verification	TIMEFRAME				RESPONSIBLE PARTY	PLANNED BUDGET		
		Q1	Q2	Q3	Q4		Source of Funds	Budget Description	Amount
1. Ecological integrity assured for the three Core Areas of the Nimba Mountains Biosphere Reserve	1.2. Dynamics of the core areas' biodiversity known, threats precisely described and management actions identified with participation of buffer zone villages.	x	x	x	x	NEX	62000	72200 Equipment	10 000
		x	x	x	x	UNDP	62000	74100 Professional services	10 000
		x	x	x	x	UNDP	62000	71500 UNV (national)	4 000
		x	x	x	x	UNDP	62000	72100 Contractuel services-comp	15 000
	<b>Sub total</b>								<b>39 000</b>
	1.3. Decrease in incursions and illegal activities in the core areas.	x	x	x	x	UNDP	62000	74100 Professional services	18 900
		<b>Sub total</b>							
	<b>Sub-Total Outcome 1</b>								<b>57 900</b>
	2.3. Improved incomes from agricultural produce sold for higher prices			x		UNDP	04000	72600 Micro credit	30 000
				x		UNDP	62000	72600 Micro Grant	75 000
	<b>Sub total</b>								<b>105 000</b>
	2.4. Diversified income sources	x	x	x	x	UNDP	04000	71500 UNV (national)	6 000
<b>Sub total</b>								<b>6 000</b>	
<b>Sub-Total Outcome 2</b>								<b>111 000</b>	
3. Local needs for animal protein more fully met using practices that do not damage wildlife	3.1. More productive animal husbandry, integrated with agriculture	x	x	x	x	NEX	62000	72100 Contractual Services - Comp	20 000
		<b>Sub total</b>							
	3.2. Domestication and breeding of wild animals tested and disseminated	x	x	x	x	UNDP	04000	71500 UNV Veterinian	6 000
		x	x	x	x	UNDP	00005	71400 Contractuel services-indiv	8 000
		x	x	x	x	NEX	62000	74500 Miscellaneous expenses	7 000
		x	x	x	x	UNDP	62000	71400 Contractuel services-indiv	4 000
<b>Sub total</b>								<b>25 000</b>	
<b>Sub-Total Outcome 3</b>								<b>45 000</b>	
4. Improved health conditions, in particular among the neighbouring villages subject to constraints from the Reserve	4.1. Improved medical and para-medical health care	x	x	x	x	UNDP	04000	7220 Equipment	10 000
		<b>Sub total</b>							
	4.3. Increased access to potable water	x	x	x	x	UNDP	04000	74100 Professional services	12 000
		x	x	x	x	UNDP	62000	71400 Contractuel services-indv	8 000
	<b>Sub total</b>								<b>20 000</b>
4.4. Improved hygiene practices	x	x	x	x	NEX	00005	72100 Contractuel services-comp	15 000	

							<b>Sub total</b>	<b>15 000</b>	
<b>Sub-Total Outcome 4</b>								<b>45 000</b>	
5. Strengthened capacity of the Reserve's management structures, mainstreaming of biodiversity conservation, and contribution to national protected area system	5.2. CEGEN's human and material resources strengthened and well managed.	x	x	x	x	UNDP	62000	71400 Contratuel sevices -indiv	12 000
		x	x	x	x	UNDP	62000	71400 Contratuel sevices -indiv	8 000
		x	x	x	x	NEX	04000	73520 Support Services	20 000
		x	x	x	x	UNDP	04000	72100 Contractuel services-comp	15 000
	<b>Sub total</b>								<b>55 000</b>
	5.3. An operational ecological monitoring system	x	x	x	x	UNDP	62000	71500 UNV/GIS	2 000
		<b>Sub total</b>							
	5.5. Stakeholders better informed and aware of the issues and of resource conservation	x	x	x	x	NEX	62000	74500 Miscellaneous expenses	10 000
		<b>Sub total</b>							
	<b>Sub-Total Outcome 5</b>								<b>67 000</b>
<b>TOTAL YEAR 6</b>								<b>\$ 325 900</b>	

Year 7

EXPECTED Outcomes	Outputs See Logical Framework	TIMEFRAME	RESPONSIBLE	PLANNED BUDGET
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	<u>Analysis for corresponding indicators and means of verification</u>	Q1	Q2	Q3	Q4	PARTY	Source of Funds	Budget Description	Amount
1. Ecological integrity assured for the three Core Areas of the Nimba Mountains Biosphere Reserve	1.2. Dynamics of the core areas' biodiversity known, threats precisely described and management actions identified with participation of buffer zone villages.	x	x	x	x	NEX	62000	72200 Equipment Supplies	10 000
		<b>Sub total</b>							
<b>Sub-Total Outcome 1</b>									<b>10 000</b>
	2.4. Diversified income sources	x	x	x	x	NEX	04000	74100 Professionnel Services	10 000
		<b>Sub total</b>							
<b>Sub-Total Outcome 2</b>									<b>10 000</b>
	3.2. Domestication and breeding of wild animals tested and disseminated	x	x	x	x	UNDP	04000	71500 UNV Veterinarian	2 000
		x	x	x	x	UNDP	00005	71400 Contractual services - indiv.	8 000
		<b>Sub total</b>							
<b>Sub-Total Outcome 3</b>									<b>10 000</b>
4. Improved health conditions, in particular among the neighbouring villages subject to constraints from the Reserve	4.1. Improved medical and para-medical health care	x	x	x	x	NEX	04000	74500 Miscellaneous Expenses	5 000
		<b>Sub total</b>							
	4.3. Increased access to potable water	x	x	x	x	UNDP	62000	71400 Contractual services - indiv.	2 500
		x	x	x	x	NEX	04000	72100 Contractual Services - comp.	10 000
<b>Sub total</b>								<b>12 500</b>	
<b>Sub-Total Outcome 4</b>									<b>17 500</b>
5. Strengthened capacity of the Reserve's management structures, mainstreaming of biodiversity conservation, and contribution to national protected area system	5.2. CEGEN's human and material resources strengthened and well managed.	x	x	x	x	UNDP	62000	71400 Contractual services - indiv.	12 000
		x	x	x	x	UNDP	62000	71400 Contractual services - indiv.	8 000
		x	x	x	x	NEX	62000	73520 Support Services	30 000
	<b>Sub total</b>								<b>50 000</b>
	5.3. An operational ecological monitoring system					NEX	00005	71200 International Consultant	30 000
		<b>Sub total</b>							
	5.4. Guaranteed long-term funding for conservation		x	x			UNDP	00005	713000 Local Consultant
x			x	x	x	UNDP	62000	74600 Travel	15 000
<b>Sub total</b>								<b>21 000</b>	

5.5. Stakeholders better informed and aware of the issues and of resource conservation	x	x	x	x	NEX	62000	74500 Miscellaneous Expenses	5 000
	<b>Sub total</b>							<b>5 000</b>
5.6. Contribution to a national protected area system	x	x			UNDP	04000	71300 Local consultant	5 000
	<b>Sub total</b>							<b>5 000</b>
<b>Sub-Total Outcome 5</b>								<b>111 000</b>
<b>TOTAL YEAR 7</b>								<b>\$ 158 500</b>

Year 8

<b>EXPECTED Outcomes</b>	<u>Outputs</u> See Logical Framework	<b>TIMEFRAME</b>	<b>RESPONSIBLE</b>	<b>PLANNED BUDGET</b>
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	Analysis for corresponding <u>indicators</u> and <u>means of verification</u>	Q1	Q2	Q3	Q4	PARTY	Source of Funds	Budget Description	Amount	
1. Ecological integrity assured for the three Core Areas of the Nimba Mountains Biosphere Reserve	1.2. Dynamics of the core areas' biodiversity known, threats precisely described and management actions identified with participation of buffer zone villages.	x	x	x	x	UNDP	62000	74100 Professional services	10 000	
		x	x	x	x	NEX	62000	74500 Miscellaneous Expenses	5 000	
		<b>Sub total</b>								<b>15 000</b>
<b>Sub-Total Outcome 1</b>									<b>15 000</b>	
2. Sustainable land use and agricultural revenues of local people increased on the basis of more productive practices	2.3. Improved incomes from agricultural produce sold for higher prices			x	x	UNDP	04000	71300 Local Consultant	5 000	
		<b>Sub total</b>								<b>5 000</b>
<b>Sub-Total Outcome 2</b>									<b>5 000</b>	
3. Local needs for animal protein more fully met using practices that do not damage wildlife	3.2. Domestication and breeding of wild animals tested and disseminated					UNDP	00005	71400 Contractual Services - indiv	4 000	
						NEX	62000	74500 Miscellaneous Expenses	20 000	
		<b>Sub total</b>								<b>24 000</b>
<b>Sub-Total Outcome 3</b>									<b>24 000</b>	
4. Improved health conditions, in particular among the neighbouring villages subject to constraints from the Reserve	4.1. Improved medical and para-medical health care	x	x	x	x	UNDP	04000	72200 Equipment	10 000	
		<b>Sub total</b>								<b>10 000</b>
<b>Sub-Total Outcome 4</b>									<b>10 000</b>	
5. Strengthened capacity of the Reserve's management structures, mainstreaming of biodiversity conservation, and contribution to national protected area system	5.2. CEGEN's human and material resources strengthened and well managed.	x	x	x	x	UNDP	62000	71400 Contractual Services - indiv	12 000	
		x	x	x	x	UNDP	62000	71400 Contractual Services - indiv	8 000	
		x	x	x	x	NEX	62000	735200 Support Services	20 000	
	<b>Sub total</b>								<b>40 000</b>	
	5.4. Guaranteed long-term funding for conservation		x	x	x	x	UNDP	00005	71600 Travel	30 000
				x			UNDP	00005	71200 International Consultant	30 000
			x	x	x	x	NEX	62000	74500 Miscellaneous Expenses	10 000
			x	x	x	x	NEX	04000	74100 Professional services	5 000
			<b>Sub total</b>							
	5.5. Stakeholders better informed and aware of the issues and of		x	x	x	x	UNDP	62000	74500 Miscellaneous Expenses	5 000
<b>Sub total</b>									<b>5 000</b>	

resource conservation								
5.6. Contribution to a national protected area system	x	x	x	x	NEX	04000	74500 Miscellaneous Expenses	5 000
	x	x	x	x	UNDP	00005	72200 Equipment	25 000
							<b>Sub total</b>	<b>30 000</b>
<b>Sub-Total Outcome 5</b>								<b>150 000</b>
<b>TOTAL YEAR 8</b>								<b>204 000</b>

Year 9

EXPECTED Outcomes	Outputs See Logical Framework Analysis for corresponding indicators and means of verification	TIMEFRAME				RESPONSIBLE PARTY	PLANNED BUDGET		
		Q1	Q2	Q3	Q4		Source of Funds	Budget Description	Amount
1. Ecological integrity assured for the three Core Areas of the Nimba Mountains Biosphere Reserve	1.2. Dynamics of the core areas' biodiversity known, threats precisely described and management actions identified with participation of buffer zone villages.	x	x	x	x	NEX	62000	74100 Professional services	10 000
<b>Sub total</b>								<b>10 000</b>	
<b>Sub-Total Outcome 1</b>									<b>10 000</b>
3. Local needs for animal protein more fully met using practices that do not damage wildlife	3.2. Domestication and breeding of wild animals tested and disseminated	x	x	x	x	NEX	62000	74100 Professional services	20 000
<b>Sub total</b>								<b>20 000</b>	
<b>Sub-Total Outcome 3</b>									<b>20 000</b>
5. Strengthened capacity of the Reserve's management structures, mainstreaming of biodiversity conservation, and contribution to national protected area system	5.2. CEGEN's human and material resources strengthened and well managed.	x	x	x	x	UNDP	62000	71400 Contractual Services - indiv	12 000
		x	x	x	x	UNDP	62000	71400 Contractual Services - indiv	8 000
		x	x	x	x	UNDP	62000	735200 Support Services	10 000
		x	x	x	x	NEX	62000	74500 Miscellaneous Expenses	5 000
	<b>Sub total</b>								<b>35 000</b>
	5.5. Stakeholders better informed and aware of the issues and of resource conservation		x	x	x	x	NEX	04000	74500 Miscellaneous Expenses
<b>Sub total</b>								<b>5 000</b>	
5.6. Contribution to a national protected area system		x	x	x	x	NEX	04000	74100 Professional services	20 000
<b>Sub total</b>								<b>20 000</b>	
<b>Sub-Total Outcome 5</b>									<b>60 000</b>
<b>TOTAL YEAR 9</b>								<b>90 000</b>	

**2. Budget and Work Plan** (GEF, UNESCO, UNDP, Gvt, FFI, RDC and MINING)

## Summary

### Total Budget and Workplan

(GEF, UNESCO, UNDP, Gvt, FFI, RDC and MINING)

EXPECTED Outcomes	Outputs See Logical Framework Analysis for corresponding indicators and means of verification	TIMEFRAME									RESPONSIBLE PARTY	PLANNED BUDGET			
		Yr1	Yr2	Yr3	Yr4	Yr5	Yr6	Yr7	Yr8	Yr9		Source of Funds	Budget Description	Amount	
1. Ecological integrity assured for the three Core Areas of the Nimba Mountains Biosphere Reserve	1.1. Boundaries of the core areas recognized, legalized and demarcated	X	X	X								UNDP	62000	International consultant	38 000
		X	X	X								UNDP	62000	Contractual services - indiv.	22 000
		X	X	X								UNDP	62000	Contractual services - indiv.	30 000
		X	X									UNDP	62000	Local Consultant	15 000
		X	X	X								NEX	62000	Equipments (Pictograms)	20 000
	<b>Sub total</b>													<b>125 000</b>	
	1.2. Dynamics of the core areas' biodiversity known, threats precisely described and management actions identified with participation of buffer zone villages.			X	X			X				NEX	62000	Equipments Supplies	30 000
				X	X							UNDP	62000	International consultant	30 000
					X		X					UNDP	62000	Equipments	20 000
				X								UNDP	04000	Equipments	20 000
						X						NEX	62000	Equipment and furniture	10 000
				X	X	X	X					UNDP	62000	Contractual services - comp.	65 000
				X			X		X	X		UNDP	62000	Professional Services	60 000
				X	X	X	X					UNDP	62000	UNV (national)	20 000
	<b>Sub total</b>													<b>260 000</b>	
1.3. Decrease in incursions and illegal activities in the core areas.			X	X	X	X	X	X	X		NEX	00123	Support Services	500 000	
											NEX	00311	Equipment	486 500	
			X	X	X	X	X	X	X		NEX	00123	Equipment	40 000	
		X	X	X	X	X					NEX	00311	Miscellaneous Expenses	50 000	
		X	X								UNDP	62000	Contractual services -comp	100 000	
	X			X							UNDP	00005	Contractual services -comp	50 000	
	X										UNDP	62000	Contractual services - indiv.	15 000	
		X									UNDP	04000	Contractual services - indiv.	10 000	
		X									UNDP	62000	Contractual services - indiv.	10 000	
	X										NEX	62000	Equipment	665 500	
	X									NEX	62000	Support Services	60 000		

		X									NEX	62000	Travel	20 000
		X									UNDP	62000	Local Consultant	15 000
			X	X	X						NEX	62000	Professional services	47 800
		X									NEX	04000	Professional services	20 000
				X							NEX	04000	Miscellaneous expenses	20 000
		X	X								NEX	62000	Miscellaneous expenses	20 000
		X									UNDP	62000	International consultants	30 000
		<b>Sub total</b>												<b>2 159 800</b>
1.4. Improved compatibility of planned mining activities, and strengthened cooperation	X		X								UNDP	62000	Contractual services - comp	120 000
		X									UNDP	04000	Local Consultant	7 000
			X								NEX	04000	Professional services	10 000
			X	X	X	X	X	X			NEX	00311	Contractual services - comp	100 000
		<b>Sub total</b>												<b>237 000</b>
1.5. Management plan prepared and implemented for the three core areas, with full participation of local communities	X										NEX	62000	Support Services	50 000
	X										UNDP	04000	Local Consultant	6 000
		X		X							UNDP	05000	Local Consultant	13 300
	X	X									UNDP	62000	Contractual services - comp.	100 000
	X	X									NEX	04000	Travel	25 000
			X								NEX	62000	Travel	10 000
			X								UNDP	62000	Miscellaneous expenses	20 000
		X									NEX	62000	Professional Services	30 000
			X	X							NEX	00311	Contractual services - comp	300 000
		<b>Sub total</b>												<b>554 300</b>
1.6. Impacts of refugees do not affect the core areas.	X		X								NEX	62000	Miscellaneous expenses	30 000
	X	X									UNDP	04000	Local Consultant	15 000
		X									UNDP	62000	Contractual services - comp.	20 000
		X									UNDP	05000	Contractual services - comp.	15 000
		<b>Sub total</b>												<b>80 000</b>
<b>Sub-Total Outcome 1</b>														<b>3 416 100</b>
2. Sustainable land use and agricultural revenues of local people increased on the basis of more productive practices.	2.1. Sustainable land use systems	X	X								UNDP	62000	International consultant	30 000
			X								UNDP	04000	International consultant	8 000
		X									UNDP	04000	Local Consultant	5 000
			X								UNDP	04000	Contractual services - comp.	30 000
		X	X	X							NEX	04000	Miscellaneous expenses	40 000

		X									NEX	04000	Equipments	10 000	
		X									NEX	04000	Equipment Supplies	5 000	
			X								NEX	04000	Equipment and Furnitures	10 000	
		<b>Sub total</b>												<b>138 000</b>	
	2.2. Increased agricultural yields	X	X								UNDP	04000	International Consult.	30 000	
		X		X	X						UNDP	04000	contractuel services- indiv	23 000	
		X									UNDP	04000	Local Consultant	5 000	
		X	X	X	X						UNDP	04000	Contractuel services -compag	230 000	
			X	X	X	X	X	X			NEX	00311	Contractual services - comp	1 093 500	
				X	X	X					NEX	00123	Contractual services - comp	110 000	
		<b>Sub total</b>												<b>1 491 500</b>	
	2.3. Improved incomes from agricultural produce sold for higher prices			X	X						NEX	04000	Miscellaneous expenses	65 000	
		X	X		X						UNDP	04000	Contractual services-comp	60 000	
											NEX	04000	Miscellaneous expenses	0	
		X	X		X				X		UNDP	04000	Local consultant	23 000	
			X	X		X					UNDP	04000	Grant	130 000	
			X	X		X					UNDP	62000	Grant	195 000	
		X									NEX	04000	Travel	15 000	
				X	X						NEX	00311	Contractual services - comp	100 000	
									X		NEX	00123	Contractual services - comp	46 500	
		<b>Sub total</b>												<b>634 500</b>	
	2.4. Diversified income sources			X	X						NEX	04000	Miscellaneous expenses	35 000	
				X	X	X					UNDP	04000	UNV (national)	24 000	
				X	X						UNDP	04000	Equipment/ Procurement MFP	45 000	
							X				NEX	04000	Professionnel Services	10 000	
		<b>Sub total</b>												<b>114 000</b>	
<b>Sub-Total Outcome 2</b>															<b>2 378 000</b>
3. Local needs for animal protein more fully met using practices that do not damage wildlife	3.1. More productive animal husbandry, integrated with agriculture	X	X	X	X						NEX	62000	Miscellaneous expenses	55 000	
		X	X	X	X	X					UNDP	62000	Contract services-Comp	200 000	
		X									UNDP	4000	Contractual services - comp	110 000	
		X	X								NEX	4000	Miscellaneous Expenses	60 000	
		<b>Sub total</b>												<b>425 000</b>	
	3.2. Domestication and breeding of wild animals tested and disseminated	X	X	X	X	X	X				UNDP	04000	UNV Veterinarian	38 000	
		X	X	X	X	X					UNDP	00005	Contractual services-indv	86 000	
		X	X	X	X						UNDP	62000	Contractual services-indv	26 000	

			X	X	X	X	X						UNDP	00005	Contractual services -indv	24 000
							X		X				NEX	62000	Miscellaneous Expenses	27 000
		X	X	X	X								NEX	00005	Miscellaneous Expenses	43 700
		X		X									UNDP	62000	Contractuel services -comp.	112 000
									X				NEX	62000	Professional services	20 000
		<b>Sub total</b>														<b>376 700</b>
	3.3. Wildlife and non-timber forest resources co-managed with local populations in a sustainable manner	X	X	X	X	X							UNDP	62000	Miscellaneous expenses	101 000
			X		X								NEX	62000	Miscellaneous expenses	65 000
			X		X								UNDP	62000	Equipment/Supplies wild species	103 200
		X	X										UNDP	04000	Local Consultant	11 000
		<b>Sub total</b>														<b>280 200</b>
<b>Sub-Total Outcome 3</b>																<b>1 081 900</b>
4. Improved health conditions, in particular among the neighbouring villages subject to constraints from the Reserve	4.1. Improved medical and para-medical health care			X	X								UNDP	04000	Equipment (drugs)	50 000
		X			X	X							UNDP	04000	Contractuel services -comp.	60 000
							X		X				NEX	04000	Equipment	20 000
								X					NEX	04000	Miscellaneous Expenses	5 000
			X										UNDP	04000	Local consultant	10 000
					X	X							NEX	00311	Contractual services - comp	100 000
						X	X	X					NEX	00311	Contractual services - comp	100 000
					X	X							NEX	RDC	Contractual services - comp	50 000
		<b>Sub total</b>														<b>395 000</b>
	4.2. Increased access to health care				X	X							UNDP	04000	Miscellaneous expenses	25 000
			X										UNDP	04000	Contractual services -comp.	50 000
					X	X	X						NEX	00311	Contractual services - comp	100 000
								X	X				NEX	RDC	Contractual services - comp	20 000
								X	X				NEX	00123	Contractual services - comp	80 000
		<b>Sub total</b>														<b>275 000</b>
	4.3. Increased access to potable water	X		X	X	X	X	X					UNDP	62000	Contractual services -comp.	42 500
		X											UNDP	04000	Contractual services -comp.	10 000
			X				X						UNDP	04000	Profesional services	40 000
					X								UNDP	62000	Travel	15 000
		X	X	X	X	X		X					NEX	04000	Contractuel services -comp.	137 000
						X	X	X	X	X			NEX	00311	Contractual services - comp	250 000
						X	X	X	X	X			NEX	00311	Miscellaneous Expenses	90 000

					X	X	X	X	X	NEX	00311	Contractual services - comp	170 000
					X	X	X	X	X	NEX	00311	Miscellaneous Expenses	80 000
												<b>Sub total</b>	<b>834 500</b>
	4.4. Improved hygiene practices			X		X				UNDP	00005	Contractuel services-comp	30 000
					X	X	X	X	X	NEX	00311	Contractual services - comp	150 000
					X	X	X	X	X	NEX	00123	Miscellaneous Expenses	54 000
					X	X	X	X	X	NEX	RDC	Contractual services - comp	30 000
												<b>Sub total</b>	<b>264 000</b>
<b>Sub-Total Outcome 4</b>													<b>1 768 500</b>
5. Strengthened capacity of the Reserve's management structures, mainstreaming of biodiversity conservation, and contribution to national protected area system	5.1. Synergy ensured between institutions and between interventions.	X	X	X						UNDP	62000	Contractual services-comp	135 000
		X	X	X	X	X				UNDP	62000	UNV (national)	30 000
		X	X							UNDP	00005	International consultant	60 000
		X			X					UNDP	62000	Miscellaneous Expenses	65 000
			X							UNDP	00005	Local consultant	10 000
					X	X	X	X	X	NEX	00311	Contractual services - comp	250 000
			X							NEX	4000	International Consultant	30 000
												<b>Sub total</b>	<b>580 000</b>
	5.2. CEGEN's human and material resources strengthened and well managed.	X	X	X	X	X	X	X	X	UNDP	62000	Contractual services-indiv.	108 000
		X	X	X	X	X	X	X	X	UNDP	62000	Contractual services-indiv.	72 000
				X			X	X	X	UNDP	62000	Support Services	152 000
					X	X				UNDP	04000	Support Services	79 400
							X			UNDP	04000	Contractual services-comp	15 000
			X							NEX	04000	Miscellaneous expenses	15 000
									X	NEX	62000	Miscellaneous expenses	5 000
					X	X	X	X	X	NEX	00311	Miscellaneous Expenses	180 000
					X	X	X	X	X	NEX	00311	Contractual services - comp	400 000
												<b>Sub total</b>	<b>1 026 400</b>
	5.3. An operational ecological monitoring system	X	X	X						UNDP	62000	Contractual services - indiv.	72 000
		X	X							NEX	00005	Miscellaneous expenses	55 000
		X	X	X	X	X	X			UNDP	62000	UNV/GIS	32 000
		X	X	X	X	X				UNDP	62000	Contractual services-comp	230 000
								X		UNDP	00005	International Consultant	30 000
												<b>Sub total</b>	<b>419 000</b>
	5.4. Guaranteed long-term funding for conservation							X		UNDP	00005	Local Consultant	6 000
									X	UNDP	62000	Miscellaneous Expenses	10 000

								X		NEX	04000	Professional services	5 000
							X			NEX	62000	Travel	15 000
								X		NEX	00005	Travel	30 000
								X		UNDP	00005	71200 International Consultant	30 000
							X	X	X	NEX	00311	Miscellaneous Expenses	500 000
												<b>Sub total</b>	<b>596 000</b>
5.5. Stakeholders better informed and aware of the issues and of resource conservation	X	X	X							UNDP	04000	Local Consultant /IEC	20 000
	X	X		X	X	X	X	X		NEX	62000	Miscellaneous expenses	56 000
			X						X	NEX	04000	Miscellaneous expenses	10 000
			X							UNDP	62000	Contractual services -comp	10 000
	X									NEX	62000	Travel	20 000
												<b>Sub total</b>	<b>116 000</b>
5.6. Contribution to a national protected area system							X			UNDP	04000	Local consultant	5 000
								X		NEX	04000	Miscellaneous Expenses	5 000
								X		UNDP	00005	Equipment	25 000
									X	NEX	04000	Professional services	20 000
												<b>Sub total</b>	<b>55 000</b>
<b>Sub-Total Outcome 5</b>													<b>2 792 400</b>
<b>Total Programme Budget</b>													<b>11 436 900</b>

**SIGNATURE PAGE**

Country: Republic of Guinea

UNDAF Outcome(s)/Indicator(s): (i) – Improve agricultural production and the proportion of people accessing a minimum caloric intake; (ii) – Improve the living conditions of the people; (iii) Promote good local governance and knowledge of human rights; (iv) Operationalise the mechanism for national conflict resolution and risk & catastrophe management.

Expected Outcome(s)/Indicator (s): Global concerns and commitments related to the environment integrated into national policies and planning

Expected Output(s)/Indicator(s): National biodiversity strategy and action plan approved in 2002, and implemented via the Nimba Mountains Biodiversity programme that will conserve the site’s biodiversity through integrated and participatory management until 2013

Implementing partner: Ministry of Environment, Government of Guinea  
(designated institution/Executing agency)

Other Partners: UNDP-Guinea, UNESCO/WHC, national NGOs  
(formerly implementing agencies)

Decentralised governmental technical agencies

International development agencies & NGOs

Programme Period November 2004 – October 2013  
 Programme Component: Sustainable environmental management  
 Project Title Conservation of the biodiversity of the Nimba Mountains through integrated and participatory management  
 Project ID: GUI/03/G31, GUI/04/001/A/01/99  
 Project Duration: 9 years  
 Management Arrangement: NEX arrangements

Budget (US\$)	<u>11,436,900</u>
General Management Support Fee	_____
Total budget:	<u>11,436,900</u>
Allocated resources:	<u>11,436,900</u>
• Government	<u>330,500</u>
• UNDP TRAC funds (1+2)	<u>1,646,400</u>
• Other:	
○ GEF	<u>3,660,000</u>
○ WHC	<u>500,000</u>
○ Mining	<u>4,500,000</u>
○ FFI	<u>200,000</u>
• In kind contributions (Gvt-RDC)	<u>600,000</u>
Unfunded budget:	<u>-0-</u>

**Agreed by El hadj Theirno Habib Diallo for Government of Guinea: \_\_\_\_\_**  
**Minister of Cooperation**

**Agreed by Mr. Cheick Abdel Kader Sangaré for the Executing Agency: \_\_\_\_\_**  
**Minister of Environment**

**Agreed by Mr. Kingsley O. Amaning of UNDP: \_\_\_\_\_**  
**UNDP Resident Representative**