Report No. 13868-CRG

Burkina Faso and Republic of Côte d'Ivoire

West Africa Pilot Community-Based Natural Resources and Wildlife Management Project

Project Document
August 9, 1995

Agriculture and Environment Division
West Central Africa Department
Africa Region

CURRENCY EQUIVALENTS

(as of July 1994)

CFA Francs 545 = US$1

WEIGHTS AND MEASURES

The metric system is used throughout this report.

ABBREVIATIONS AND ACRONYMS

AGEREF	- Inter Village Association for Management of Natural Resources and Wildlife
ADS	Annual Departmental Seminar (Côte d'Ivoire)
CITES	- Convention on International Trade of Endangered Species
DPN	- Directorate for Protection of Nature (Côte d'Ivoire)
GC	Consultative Group (Burkina Faso)
GEF	- Global Environment Facility
ICB	- International Competitive Bidding
IUCN	- World Conservation Union
MEE	- Ministry of Environment and Water (Burkina Faso)
NCB	- National Competitive Bidding
NEAP	- National Environmental Action Plan
NGO	- Non Governmental Organization
NSC	- National Steering Committee (Côte d'Ivoire)
PC	- Project Coordinator
PCAR	- Project Completion Audit Report
PCGAP	- National Protected Area Management Project
PCR	- Project Completion Report
PNGTER	- National Community-Based Land Management Project (Côte d'Ivoire)
PNGT	- National Community-Based Land Management Project (Burkina Faso)
PSF	- Forestry Sector Project (Côte d'Ivoire)
PTCG	- Provincial Technical Consultation Group
RCI	- Republic of Côte d'Ivoire
SOE	- Statement of Expenditure
TOR	- Terms of Reference
TSU	- Technical Support Unit
UNDP	- United Nations Development Program
VO	- Village Organization

FISCAL YEAR

January 1 to December 31

PART I: PROJECT SUMMARY

BURKINA FASO and REPUBLIC OF CÔTE D'IVOIRE
WEST AFRICA PILOT COMMUNITY-BASED NATURAL RESOURCE AND WILDLIFE MANAGEMENT PROJECT

Grant Summary

Source of Grant:	Global Environment Facility Trust Fund
Grant Recipients:	Burkina Faso Republic of Côte d'Ivoire
Amount:	SDR 1.70 million (US$2.64 million equivalent) to Burkina Faso, and SDR 2.80 million (US$4.38 million equivalent) to the Republic of Côte d'Ivoire
Terms:	Grant
Objectives:	To conserve biodiversity through local community participation in capacity building and human resource development, zoning wildland and village areas, improving natural habitat and wildlife management, and improving agricultural land management and infrastructure development.

Financing Plan:

	Total (US$million)
Government of Burkina Faso	0.36
Government of Côte d'Ivoire	1.13
Local Populations Burkina Faso	0.11
Local Populations Côte d'Ivoire	0.19
GEF	7.00
Government of Belgium	4.40
TOTAL	**13.19**

Economic Rate of Return:	Not Applicable
Environment Category:	"B"

Burkina Faso and Republic of Côte d'Ivoire
West Africa Pilot Community-Based Natural Resource and Wildlife Management Project

---

Country/Sector Background

1. A protectionist approach based on the establishment of national parks has dominated biodiversity conservation efforts in Africa during the last fifty years. So far, this strategy has largely failed in West Africa. A lack of political commitment, inadequate financial resources, limited potential for tourism, and conflictual situations with peripheral human populations have meant that most of the region's protected areas are only "paper parks", with little effective management on the ground. Denied their traditional prerogative to utilize wildlife and other wild resources, local populations have had no incentive to manage the protected areas in a sustainable way, or to protect them from poachers and settlers.

2. In the **Côte d'Ivoire** economic growth has slowed down since the 1980s.*Per capita* GNP dropped to US$715 in 1992 (and to US$510 after the 1994 devaluation of the CFA Franc). In the same year, the current account deficit reached 12 percent of GDP and outstanding public debt increased to 151 percent of GDP. There has been insufficient investment in local capacity building and there is a relatively weak private sector resulting from excessive government control. With a current annual growth rate of 3.7 percent the country's population has risen to over 12.5 million. It is estimated that half of the national population lives in urban areas.

3. **Burkina Faso** is a land-locked country and, with a 1994 *per capita* GNP of US$300, is one of the poorest in the world. The population is currently 9.6 million and growing at 3 percent *per annum*. Agriculture is the basis of the country's economy, but past growth has been more through the expansion of cropped areas than increased productivity. Government intervention in the industrial and commercial sectors is being reduced and there is increasing support for the private sector, especially in agriculture, animal production and mining. The Government aims to reduce the public finance deficit to 3 percent of GDP in 1995.

4. The main strategic foundation for the Project in both Burkina Faso and Côte d'Ivoire is the community-based land management *(gestion des terroirs)* approach that is increasingly being adopted in the region for sustainable economic development and natural resource management. In support of the community-based land management operations both governments are developing new policies and legislation on decentralization, land tenure reform and the increased participation of local communities in the management of natural resources.

5. Land tenure in **Burkina Faso** is officially controlled by the *Zatu* An VIII 0039 of June 4, 1991. All land legally belongs to the State, but the establishment of local Community Land Management Committees can provide the population, represented by traditional land chiefs, with the acknowledged authority to manage their land and natural resources outside gazetted areas.

6. In **Côte d'Ivoire** land tenure effectively remains based on colonial legislation dating from 1928, 1932 and 1935. More recent legislation in 1971 had virtually no impact on the land tenure situation. In the Project area the land legally belongs to the State. However, outside the gazetted protected areas the powers of traditional authorities to control land use are accepted by the population, and unofficially recognized by the local authorities.

7. In **Côte d'Ivoire**, the Ministry of Agriculture and Animal Resources is responsible for agriculture, animal production, water resources and forestry, which includes wildlife management and conservation. Work on a National Environment Action Plan (NEAP) started in 1992 and the NEAP is expected to be adopted by the Government in October 1995. The NEAP includes a Biodiversity Conservation Strategy which promotes the involvement of local communities in all conservation activities and the sustainable use of wildlife in non-protected areas. In 1992, Government environmental priorities were established which include: (i) improved natural resource management; (ii) improved public awareness and mass education; (iii) the preparation of an Environmental Code; (iv) the promotion of ecotourism; and (v) the development of an agricultural and land use policy based on the regeneration of basic natural resources. In May 1994, the Government decided to lift the ban on hunting, which had been in place since 1974, once effective monitoring and control mechanisms were put into place. This change in legislation, together with the Government's adoption of a community-based natural resource management strategy, provides a positive policy environment for the Project. Côte d'Ivoire has ratified the Convention on International Trade of Endangered Species (CITES).

8. In **Burkina Faso** the Project fits well into national strategies for community-based land management and for the conservation of biodiversity, both described in the NEAP which was completed in 1991. The aim in these areas is to guide migration and encourage people to settle and develop land within a framework of sustainable natural resource management. In 1993, the Government organized a national seminar on Wildlife Conservation Strategy which advocated a conservation approach based on sustainable wildlife utilization. The proposed project will help to implement the seminar's recommendations which include: (i) improving the participation of local populations in wildlife conservation; (ii) ensuring that benefits from wildlife are available to them; (iii) delegating responsibility for wildlife management areas outside national parks to independent management units which would be legally recognized by the Government; and (iv) improving cooperation with national and international non-government organizations. Burkina Faso has ratified the CITES convention.

9. The Project also represents an important practical test of recently adopted strategies for natural resource management and economic development in the areas liberated from Onchocerciasis. Both countries recognize the weakness in the government's capacity to implement natural resource management projects. The Project therefore will provide an important step in developing new strategies to increase the involvement of NGOs and the private sector in the implementation of national projects.

Project Objectives

10. The Project will facilitate the conservation of three areas in Burkina Faso and one in Côte d'Ivoire within one of West Africa's most diverse and threatened ecosystems: the Comoé. It will do this by introducing a new approach to biodiversity conservation in West Africa which aims to find a common solution to both development and conservation concerns by involving local communities in the sustainable, profitable exploitation of wild resources and assisting them to manage their wild land areas for their own economic benefit and for the benefit of biodiversity.

11. The Project's four specific objectives are: (i) to strengthen the capacity of local communities, NGOs and Government to manage wild plant and animal resources in a sustainable manner; (ii) to improve the management and use of habitat and wildlife populations at each site; (iii) to improve local land management practices and infrastructure; and (iv) to establish a durable system for monitoring and evaluating project implementation and impact.

Project Description

12. GEPRENAF would be a five-year project. There are four components: (i) support for local-level capacity building; (ii) implementation of habitat and wildlife management measures; (iii) land management and infrastructure development; and (iv) project management, as outlined below:

a) The Project would finance awareness building and training for local communities on village organization, project management and planning, habitat and wildlife management, the use of secondary forest products, anti-poaching, and monitoring and evaluation. Training will also be provided to local government officials and project staff. Technical assistance would be provided to village groups and associations. Also under this component the World Conservation Union (IUCN) would be contracted by each government to provide regular advice, project supervision and support. This component amounts to 15 percent of total base costs in Burkina Faso and 16 percent of total costs in Côte d'Ivoire.

b) Habitat and wildlife management operations would include the identification, zoning and delimitation of village land and wildlife management zones, road construction, bush fire management, anti-poaching operations, and water development. The Project would assist communities to make better use of wildlife and secondary forest products through improved collection, processing and marketing. It would promote, though not directly finance, ecotourism and safari hunting as a means of increasing local revenue from wildlife and thereby providing incentives for conservation. This component amounts to 33 percent of total costs in Burkina Faso and 38 percent of total base costs in Côte d'Ivoire.

c) The details of land management and infrastructure investments would be decided by the communities with the help of specially trained project staff using the participatory planning methodology developed by community-based land management projects *(gestion des terroirs)*. Possible investments would include soil and water conservation, small-scale irrigation, animal health, improved agro-pastoral production, bee-keeping, agroforestry, roads,

water supplies, and the construction of dispensaries and primary schools. Labor-intensive techniques would be used wherever possible. This component amounts to 13 percent of total base costs in both Burkina Faso and Côte d'Ivoire.

d) The Project would finance management facilities, construction and maintenance consisting of small office buildings at each site, the purchase and maintenance of vehicles and motor bikes, office equipment including a computer, a small generator, audio-visual material, radios and other necessities. This component amounts to 39 percent of total base costs in Burkina Faso and 33 percent in Côte d'Ivoire.

13. Within each component, the Project will finance monitoring and evaluation activities to track project implementation and the impact of project operations. The Project will train and employ teams of villagers to undertake regular field-level monitoring and evaluation surveys and, where necessary, external specialists to provide technical support for the ecological monitoring program.

Project Implementation

14. Project organization and management systems will evolve in three phases. Progress would depend on the rate of the development of local skills and management capacity. During Phase I, the villages will not have the capacity to manage and implement the Project. Local Village Organizations (VO) will therefore be supported and trained by a Technical Support Unit (TSU). The TSU would answer to the Project Coordinator (PC) in the lead technical Ministry. Candidates would be recruited through a process of pre-selection and competitive bidding, with contracts being awarded to a local NGO or consultant firm, or a joint local/international consortium of NGOs and/or consulting firms.

15. As village-level management skills improve, Phase II would begin, with the VOs at each site grouping themselves into informal inter-village associations, the AGEREF[1]. The committee would gradually take the lead in planning and decision-making in inter-village activities. Phase III would start once the communities at each site are ready to formalize the AGEREF. During Phases I and II the TSU would manage project funds and be responsible for project planning and implementation. This responsibility would be transferred to each AGEREF as soon as realistically possible. The timing of the transition from one phase to the next would be determined by the progress in building local capacity and institutional strength.

16. To insure **local coordination**, the existing Provincial Technical Consultation Group (PTCG) would coordinate project activities and approve village-level investments in Burkina Faso. In Côte d'Ivoire, the PC will organize an Annual Departmental Seminar (ADS) at each site to present the Project's activities and gather input on proposed village-level investments. At the **national level**, each government would nominate a PC. Coordination will be achieved through a National Steering Committee (NSC) comprising representative ministries in Côte d'Ivoire and by a

---

[1] *The association will be known by its French acronym, AGEREF: Association pour la gestion des ressources naturelles et de la faune.*

Consultative Group (CG) comprising interested ministries, NGOs, donors and private sector operators in Burkina Faso. At the **international level**, coordination would be guided by a formal agreement between the two countries defining cooperation on anti-poaching activities, bushfire management and ecological monitoring. In addition, representatives of the three TSU/AGEREFs would meet twice a year to discuss a range of common technical and operational interests.

17. Annual work programs and budgets would form the basis for implementation and financial management. They would be prepared by the PC in collaboration with the TSU/AGEREF and submitted to the CG in Burkina Faso and ADSs in Côte d'Ivoire for comments and to the PTCG in Burkina Faso and NSC in Côte d'Ivoire for approval. The proposals and budgets for investments in village-level land improvements and socio-economic infrastructure would be based on community land management plans. At each site IUCN would review the development of capacity building and human resources, the management of the wildlife zones and biodiversity conservation, animal and habitat survey and monitoring techniques, species and habitat management, and resource utilization. IUCN would also provide advice to the government on policy and legal aspects of the Project, and would assist in the identification of technical assistance needs.

18. The Project is a flexible pilot operation in which many of the investment details will be decided by local participants during implementation. An effective monitoring system will consequently be very important for project management and evaluation. Monitoring indicators would cover four major groups of factors: institutional, ecological, socio-economic and project implementation. The organization of monitoring would initially be the responsibility of the TSU and data collection would be done at two levels. First, simple field and village data collection techniques would be used to collect the bulk of monitoring information. Second, more complicated techniques, such as aerial surveys and analyses of satellite images would be undertaken by technical specialists contracted by the TSU.

19. The Project will require careful and regular supervision of both its technical and management aspects. There would be three levels of supervision. First, the PTCG and CG in Burkina Faso and the ADS and NSC in Côte d'Ivoire would review project plans and progress. Second, IUCN would assist and advise the TSU/AGEREFs and PCs during regular field visits. Third, the World Bank and cofinanciers would undertake two supervision missions every year at each site. A detailed mid-term review would be undertaken at each site during 1998. This review would focus on: (i) habitat management and biodiversity conservation; (ii) natural resource utilization; (iii) socio-economic development; (iv) project management and capacity building; (v) monitoring and evaluation; and (vi) an analysis of the viability of the underlined project strategy.

Project Sustainability

20. The Project is designed to be ecologically, economically and institutionally sustainable. A major investment in capacity building and the direct participation of the local communities in project management creates institutional sustainability. The implementation of a series of habitat improvement and resource management techniques assures ecological stability. The establishment

of profitable wild resource utilization operations which channel the benefits directly to the population would provide economic sustainability.

Lessons From Past Experiences

21. The Project draws heavily on lessons learnt from previous experiences in West Africa with participative natural resource management. This has concentrated mostly on soil, pasture and forest resources with little attention paid to biodiversity. Although some examples of community-based wildlife management are available in Africa, they are mostly from southern Africa. There is, however, one important West African example, the Nazinga Game Ranch in Burkina Faso. The main lessons from these experiences are that: (i) habitat and wildlife population rehabilitation is technically possible in areas as small as 100,000 ha.; (ii) community-based wildlife management is an effective form of habitat improvement and biodiversity conservation; (iii) sustainability depends on building-up local ownership of the Project through the generation of tangible benefits for the community; and (iv) revenue-sharing mechanisms must be clearly defined and operated in a transparent and accountable manner. These lessons have been incorporated into the design of the proposed project.

Rationale for Bank Involvement and GEF Funding

22. The northern Comoé is one of the largest and most biologically diverse ecosystems in West Africa. Biodiversity in the areas that remain pristine is threatened due to growing human pressure, associated with high immigration, land-extensive agriculture and uncontrolled hunting. The Project will address this key issue for biodiversity conservation in an innovative way by testing a participatory method for sustainable wildlife utilization, community-based natural resource management and biodiversity conservation. It will have an important local impact, but also could serve as a model for similar conservation activities elsewhere in the region. Although there is considerable national interest in the Project and its strategy, a basic lack of resources means that this type of pilot project would not be financed from existing government budgets in the near future. The proposed Project has already started to play an important role in promoting practical regional cooperation for biodiversity conservation, and would significantly contribute to local and regional human resource development in the fields of rural development and biodiversity conservation. **In both countries the Project provides investment opportunities directly related to the concerns of sustainable development and improved environmental management, which are important features of each Country Assistance Strategy for Burkina Faso (May 1994) and Côte d'Ivoire (June 1994).**

Agreed Actions

23. During appraisal, agreements were reached with the governments of Burkina Faso and Côte d'Ivoire on the institutional arrangements and the definition of the responsibilities of the communities, the government, NGOs and the private sector in the Project. In addition, agreements were obtained on the TORs and recruitment schedule of each TSU, procedures for managing the benefit stream, the methodology for determining natural resource off-take rates and fees, monitoring indicators, the TORs for IUCN, and procurement procedures.

24. For **Burkina Faso**, the following agreements were reached prior to or at negotiations: the draft contracts and the short-list for the recruitment of key Technical Support Unit staff, satisfactory to the Trustee, were finalized; a Government statement satisfactory to the Trustee for the establishment of Village Organizations was issued; a standard schedule of procurement and the nomination of a National Project Coordinators satisfactory to the Trustee were agreed upon; finally, the procedures for financial management and account, the TORs and the short list of external auditors satisfactory to the Trustee, were agreed upon. Grant effectiveness would be conditional on the opening of a Project account with an initial deposit of CFA 25,000,000; the completion of the selection of the TSU staff whose qualifications will be agreeable to the Trustee; the establishment of satisfactory draft standard bidding documents; adoption of a satisfactory Project Implementation Manual satisfactory to the Trustee, and the establishment of procedures for financial management and an accounting system consistent with the Implementation Manual; the appointment of external auditors agreeable to the Trustee; and the signature of a technical assistance contract with IUCN to provide support to project implementation Furthermore, Grant effectiveness will be conditional on the fulfillment of all conditions required for the effectiveness of the Belgian Grant Agreement

25. For **Côte d'Ivoire**, the following agreements were reached prior to or at negotiations: the draft contracts and the short-list for the recruitment of key Technical Support Unit staff satisfactory to the Trustee were finalized; a Government statement satisfactory to the Trustee for the establishment of Village Organizations was issued; a standard schedule of procurement, and the nomination of a National Project Coordinators satisfactory to the Trustee were agreed upon. Additionally, the Government of Côte d'Ivoire ratified the Rio Convention on Biodiversity and signed an agreement on the control of the institution in charge of the Project over the Kinkéné and Warigué Gazetted Forests, and agreed that forest guards from the Comoé National Park would participate in GEPRENAF implementation. Grant effectiveness would be conditional on the opening of a Project account with an initial deposit of US$100,000 equivalent; completion of the recruitment of the TSUs' community-based land management specialist and the conservation and wildlife specialist whose qualifications will be satisfactory to the Trustee; the establishment of draft standard bidding documents agreeable to the Trustee and the adoption of a satisfactory Project Implementation Manual satisfactory to the Trustee; and the signature of a contract with IUCN for technical support to the Recipient, the TSUs and the AGEREFs. Furthermore, Grant effectiveness will be conditional on the fulfillment of all conditions required for the effectiveness of the Belgian Grant Agreement

26. At negotiations the government indicated its intention to proceed with the establishment and signature of a trans-frontier coordination agreement on anti-poaching and bushfire control.

Environmental and Social Aspects

27. The Project will have a positive environmental impact through biodiversity conservation, improved habitat quality and productivity, and increased animal numbers. There will be no resettlement of the population under the Project, as the alignment of the wildlife management zones will avoid conflict between existing cultivation and biodiversity protection. The Project is not expected to have any negative environmental impact. However, each TSU/AGEREF must be

vigilant to ensure that resource exploitation is sustainable, that the improvement of local access does not lead to increased settlement, that the interests of pastoral communities with rights to use the area are not jeopardized, and that land management and infrastructure investments have no negative environmental impact. The Project is placed in Category "B" for environmental impact.

28. The Project is not expected to have any serious long-term negative social impacts, although some short-term losses will be experienced by families currently involved in commercial hunting, and there are potential medium-term losses for those involved in extensive yam cultivation. The Project will provide a framework to assist in local conflict resolution. The participative diagnostic methodology used by the Project will ensure that minority and politically marginalised groups, such as women, newly arrived migrants and landless people, are able to express their needs and concerns, and be involved in the overall planning process and sharing of benefits.

Project Benefits

29. The main environmental benefit is the initiation of a process for community-based natural resource management and biodiversity conservation in 480,000 ha of the Comoé ecosystem. In addition, future efforts in biodiversity conservation in the two nations will benefit from a field-tested model for a conservation and development strategy that could be replicated elsewhere. Social benefits include: (i) improved physical security through the control of poaching and illegal grazing; (ii) improved security of land and natural resource tenure; (iii) increased decentralized management powers and capacity; (iv) better quality of life through improved social infrastructure and revenues; and (v) improved planning, technical and management skills. The economic and financial benefits of the Project will be: (i) increased sustainable income from wildlife and wild lands resource utilization; (ii) improved community land management; and (iii) improved agricultural production.

Risks

30. The Project has four important risks. The first is uncontrolled migration. It is a risk for all natural resource management projects in the region, but the *gestion des terroirs* strategy is designed to limit this risk. Second, are risks associated with the lack of capacity to manage the wildlife zones. These include: (i) the continued expansion of agriculture; (ii) poor control of poaching; (iii) poor control of grazing; (iv) monopolization of project benefits by groups or individuals; and (v) lack of inter-community cooperation. The major emphasis by the Project on local capacity building, strengthening of anti-poaching activities and the initial technical assistance input are specifically designed to minimize this risk. The third risk relates to the difficulty of ensuring that safari hunting standards will be enforced by the governments. Careful project supervision and review of contracts will minimize this risk. Finally, there is the risk of waning local interest if the communities do not get immediate benefits from project operations. This risk is minimized by ensuring early and effective benefits from resource exploitation activities, and through the implementation of a range of infrastructure development and agro-sylvo-pastoral support activities.

After Project

31. As a pilot project, one of GEPRENAF's objective is to set up a conservation model designed to be sustainable within five years. As such, a second phase should not be necessary. After the end of the Project, other projects may continue to support activities at the GEPRENAF sites. In particular, the National Protected Area Management Project that is being identified in RCI is expected to finance activities in the periphery of the Comoé National Park where the GEPRENAF sites are located.

32. Should GEPRENAF's model be successful and viable, it could be replicated in other locations in the region. The Second Forestry Sector Project, for which preparation is about to begin in RCI, could apply a similar model for Savanna Gazetted Forests. The GEF needs to closely monitor the progress of GEPRENAF and remain open to financing similar projects elsewhere in the region. Suitable sites exist near Odienne in RCI; around the Pendjari Benin and Burkina Faso; in the Bafing area of Mali; in the Falémé area of Senegal; in the Fouta Djallon mountains of Guinea; and near the W park in Niger. Already, GEPRENAF has had a significant impact in the region. The Nazinga Game Ranch, on which GEPRENAF was initially modeled, is being rehabilitated by the Burkina Government with funds from UNDP/GEF and the Government is using the GEPRENAF as a model for its new Nazinga design.

Schedule A - Project Costs and Financing Plans

BURKINA FASO

Table 1.1 : PROJECT COST ESTIMATES

	CFAF million			US$'000			% Foreign Exchange	% Total Base Costs
	Local	Foreign	Total	Local	Foreign	Total		
A. Capacity Building	193.2	112.1	305.3	351.2	203.9	555.1	37	15
B. Wildlife and Habitat Management	459.3	228.6	687.9	835.1	415.7	1,250.8	33	33
C. Land Management and Social Infrastructure	204.2	68.3	272.5	371.3	124.1	495.4	25	13
D. Project Management	505.4	300.6	806.0	918.9	546.5	1465.4	37	39
Total Baseline Costs	**1,362.1**	**709.6**	**2,071.7**	**2,476.5**	**1,290.1**	**3,766.7**	**34**	**100**
Physical Contingencies	136.2	71.0	207.2	247.7	129.0	376.7	34	10
Price Contingencies	151.9	38.0	189.9	276.3	69.1	345.3	20	9
Total Project Costs	**1,650.3**	**818.5**	**2,468.8**	**3,000.5**	**1,488.2**	**4,488.7**	**33**	**119**

Totals may not tally as numbers have been rounded off.

CÔTE D'IVOIRE

Table 1.2 : PROJECT COST ESTIMATES

	CFAF million			US$'000			% Foreign Exchange	% Total Base Costs
	Local	Foreign	Total	Local	Foreign	Total		
A. Capacity Building	453.9	174.3	628.2	825.3	316.8	1,142.1	28	16
B. Wildlife and Habitat Management	1,151.2	343.5	1,494.7	2,093.1	624.5	2,717.6	23	38
C. Land Management and Social Infrastructure	428.2	62.4	490.7	778.6	113.6	892.2	13	13
D. Project Management	1,048.4	238.0	1,286.4	1,906.3	432.8	2,339.1	19	33
Total Baseline Costs	**3,081.8**	**818.2**	**3,900.0**	**5,603.3**	**1,487.7**	**7,091.0**	**21**	**100**
Physical Contingencies	308.2	81.8	390.0	560.3	148.8	709.1	21	10
Price Contingencies	442.8	56.1	498.9	805.1	101.9	907.0	11	13
Total Project Costs	**3,832.8**	**956.1**	**4,788.9**	**6,968.8**	**1,738.4**	**8,707.1**	**20**	**123**

Totals my not tally due to numbers being rounded off.

BURKINA FASO

Table 2.1 : FINANCING PLAN BY PROJECT COMPONENT

	Government a/	Global Environment Facility	Belgium Cooperation Agency	Population	Total
			US$'000		
A. Capacity Building	56.8	374.1	197.1	-	**628.0**
B. Wildlife and Habitat Management	135.8	894.7	471.5	-	**1,502.0**
C. Land Management and Social Infrastructure	18.3	341.2	180.2	112.1	**651.8**
D. Project Management	154.3	1,016.8	535.8	-	**1,706.9**
Total	**365.2**	**2,626.8**	**1,384.6**	**112.1**	**4.488.7**

a/ Including duties and taxes amounting to US$184,500 equivalent

CÔTE D'IVOIRE

Table 2.2 : FINANCING PLAN BY PROJECT COMPONENT

	Government a/	Global Environment Facility	Belgium Cooperation Agency	Population	Total
		(US$'000)			
A. Capacity Building	160.4	691.0	476.1	-	**1,327.5**
B. Wildlife and Habitat Management	486.9	1,777.2	1,224.6	-	**3,488.7**
C. Land Management and Social Infrastructure	110.0	507.3	351.3	188.4	**1,157.0**
D. Project Management	374.2	1,397.0	962.6	-	**2,733.9**
Total	**1,131.6**	**4,372.5**	**3,014.6**	**190.1**	**8,707.1**

a/ Including duties and taxes amounting to US$357,200 equivalent

Table 3 : SUMMARY OF PROPOSED PROCUREMENT ARRANGEMENTS
(GEF and Belgian Financing)

	CÔTE D'IVOIRE			BURKINA FASO		
			(US$'000)			
	NCB	Other*	Total	NCB	Other*	Total
A. Civil Works						
Project Building Construction	447.7	-	447.7	452.0	-	452.0
	(235.1)		(235.1)	(269.2)		(269.2)
	[162.0]		[162.0]	[141.9]		[141.9]
Social Infrastructure	570.3	190.1	760.4	337.4	112.5	449.9
	(253.2)	(84.4)	(337.7)	(165.7)	(55.2)	(221.0)
	[174.5]	[58.2]	[232.7]	[87.3]	[29.1]	[116.4]
Biodiversity Zone Rehabilitation	509.6	56.6	566.3	367.3	40.8	408.1
	(267.6)	(29.7)	(297.4)	(218.8)	(24.3)	(243.1)
	[184.4]	[20.5]	[204.9]	[115.3]	[12.8]	[128.1]
B. Goods & Vehicles						
Vehicles	626.8	209.0	835.8	310.3	103.4	413.7
	(241.5)	(80.5)	(321.9)	(184.8)	(61.6)	(246.5)
	[166.4]	[55.5]	[221.8]	[97.4]	[32.5]	[129.9]
Equipment	327.6	109.2	436.8	240.7	80.2	320.9
	(156.2)	(52.1)	(208.3)	(143.4)	(47.8)	(191.1)
	[107.6]	[35.9]	[143.5]	[75.5]	[25.2]	[100.7]
C. Consultant Services & Training						
Studies	-	421.7	421.7	-	185.4	185.4
		(221.4)	(221.4)		(110.4)	(110.4)
		[152.6]	[152.6]		[58.2]	[58.2]
Technical Assistance	-	944.0	944.0	-	553.1	553.1
		(495.7)	(495.7)		(329.5)	(329.5)
		[341.6]	[341.6]		[173.6]	[173.6]
Training	-	880.0	880.0	-	405.2	405.2
		(462.1)	(462.1)		(241.4)	(241.4)
		[318.4]	[318.4]		[127.2]	[127.2]
D. Incremental Operating Costs**	-	3,414.3	3,414.3	-	1,300.4	1,300.4
		(1,792.9)	(1,792.9)		(774.6)	(774.6)
		[1,237.0]	[1,237.0]		[408.6]	[408.6]
TOTAL	**2,482.1**	**6,225.0**	**8,707,1**	**1,707.7**	**2,780.0**	**4,488.7**
	(1,153.6)	**(3,218.9)**	**(4,372.5)**	**(982.0)**	**(1,644.8)**	**(2,626.8)**
	[794.9]	**[2,219.7]**	**[3,014.6]**	**[517.4]**	**[867.2]**	**[1,384.6]**

* Non NCB procurement arrangements were aggregated as other (direct contracting methods, shopping; etc.).

** Incremental Operating Costs include vehicles and equipment operation and maintenance, office and field supplies, local travel and subsistence, and non consultancy salaries.

Note: Figures in parenthesis are the respective amounts financed by the GEF Grant. Figures in brackets are the respective amounts financed by the Belgian Grant

Totals may not tally as numbers have been rounded off.

BURKINA FASO
Table 4.1 : SUMMARY OF DISBURSEMENTS

	(US$'000)			
Category of Expenditure	**GEF Grant**	**Belgian Grant**	**%Local Financing**	**%Foreign Financing**
1. Civil Works	670	350	90	100
2. Goods and Vehicles	400	210	90	100
3. Consultant Services & Training	620	330	100	100
5. Incremental Operating Costs	710	370	90	-
6. Unallocated	227	125		
TOTAL	**2,627**	**1,385**		

* Incremental Operating costs include vehicles and equipment operation and maintenance, office and field supplies, local travel and subsistence, and non consultancy salaries.

CÔTE D'IVOIRE
Table 4.2: SUMMARY OF DISBURSEMENTS

	(US$'000)			
Category of Expenditure	**GEF Grant**	**Belgian Grant**	**%Local Financing**	**%Foreign Financing**
1. Civil Works	790	550	90	100
2. Goods and Vehicles	490	340	75	100
3. Consultant Services & Training	1070	740	100	100
5. Incremental Operating Costs	1,630	1,120	90	-
6. Unallocated	393	265		
TOTAL	**4,373**	**3,015**		

* Incremental Operating costs include vehicles and equipment operation and maintenance, office and field supplies, local travel and subsistence, and non consultancy salaries.

BURKINA FASO
Table 5.1 : ESTIMATED DISBURSEMENTS BY YEAR

US$million

	Year 1	Year 2	Year 3	Year 4	Year 5
GEF Grant	0.83	0.70	0.35	0.50	0.25
Belgian Grant	0.44	0.37	0.19	0.24	0.14
Total per year	**1.27**	**1.07**	**0.54**	**0.74**	**0.39**
Total cumulative per year	**1.27**	**2.34**	**2.88**	**3.62**	**4.01**

CÔTE D'IVOIRE
Table 5.2 : ESTIMATED DISBURSEMENTS BY YEAR

US$million

	Year 1	Year 2	Year 3	Year 4	Year 5
GEF Grant	1.28	1.05	0.72	0.68	0.64
Belgian Grant	0.88	0.72	0.49	0.47	0.44
Total per year	**2.16**	**1.77**	**1.21**	**1.15**	**1.08**
Total cumulative	**2.16**	**3.93**	**5.14**	**6.29**	**7.38**

1. The Bank's project team was led by Jeffrey Lewis. Sarah Forster, Guy Williams, Jean-Michel Pavy, Josh Bishop (IIED), Jean-Marie Breton, Michel Kouda (IUCN), Leandre Gbéli, Sandia Mohamed and Michael Mulhenberg (GTZ) participated in the appraisal mission,. The peer reviewers were Agi Kiss and Walter Lusigi. During the first two years of preparation the Division Chiefs were Salah Darghouth (AF5AG) and Theodore Nkodo (AF1AG) and the Department Directors were Katherine Marshall (AF5) and Olivier Lafourcade (AF1). Following project preparation the Division Chief was Cynthia Cook (AF4AE) and the Department Director was Olivier Lafourcade (AF4).

Time taken to prepare the Project:	**3.5 years**
Prepared by:	**Respective governments and FAO Investment Center**
First Bank Mission:	**February, 1992**
Return from Appraisal:	**July, 1994**
Negotiations:	**June, 1995**
Planned date of Effectiveness:	**December, 1995**
List of relevant PCRs and PPARs	**None**

2. **World Bank/GEF Supervision Input:** The proposed staff input is shown in the following table for supervision requirements in the two countries. To as great an extent as possible simultaneous supervision missions should be undertaken, with project staff and community leaders participating in supervision missions in other sites.

GEF Supervision Input

Approx.	Activity	Skills	Staff Weeks	Staff Weeks
12/95	Project Launch Workshop	TM, Facilitator, Trainer	6	6
02/96	Project Launch Review	TM, Trainer, GT specialist	4	6
05/96	Supervision Mission	TM, Wildlife Specialist,	3	4
11/96	Supervision Mission	TM	3	5
05/97	Supervision Mission	TM, GT specialist, Ecologist	4	6
11/97	Supervision	TM, GT Specialist, Ecologist	3	5
05/98	Supervision Mission	TM, Training Specialist,	4	6
11/98	Mid Term Review	TM, Financial Specialist,	6	8
05/99	Supervision Mission	TM, Biodiversity Specialist, GT	4	5
11/99	Supervision Mission and	TM, Ecologist, Village	5	8
5/00	Supervision Mission	TM, Biodiversity Specialist, GT	4	5

PART II: TECHNICAL ANNEXES

Table of Contents

THE PROJECT

A. Project Description

1. The Project will support three pilot land management and biodiversity conservation operations using a community-based land and natural resource management strategy which has been successfully tested in the region. It will contribute to the conservation of a rich West African ecosystem (see Appendix 1 for a description of the sites' biodiversity) by developing a profitable and sustainable model for community-based natural resources utilization (see Appendix 2 for a description of the people living on the sites). The Project has four components: (i) support for local-level capacity building; (ii) implementation of habitat and wildlife management measures; (iii) land management and infrastructure development; and (iv) project management.

2. **Local Capacity Building**: The Project would finance local institutions and capacity building, through training, technical assistance and supervision. The training component will finance over 250 training sessions at each site. This would involve 119 weeks of training for 2,200 villagers, 36 weeks of training for the members of the Village and Inter-village Associations, and technical and managerial training for 77 government staff. The training would include awareness building, planning, habitat and wildlife management, the use of secondary forest products, safari support techniques and monitoring and evaluation.

3. At each site the Project would finance supervision support through the services of the World Conservation Union (IUCN) contracted to the governments. This would entail four man-months of supervision each year. An additional 15 man-months of short-term international technical assistance and 4 man-months of local technical assistance would be financed at each site.

4. **Habitat and Wildlife Management** activities will start with the identification and delimitation of village *terroirs* and the wildlife management and village agro-sylvo-pastoral management zones. It is provisionally estimated that in the adjacent sites of Diéfoula in Burkina Faso and Warigué in Côte d'Ivoire, the total wildlife management zone will cover approximately 195,000 ha and in Côte d'Ivoire Monts Tingui site, about 116,000 ha (approximately 65 percent of the total project area in the three sites; see maps). Once final zoning and delimitation is completed, the Project will finance habitat management activities designed to improve the quality and quantity of vegetative cover, improve the availability of water and mineral salts in the area, undertake anti-poaching activities and control the use of the areas' natural resources. One hundred and fifty kms of all-weather earth roads in Côte d'Ivoire and 100 kms in Burkina Faso would be rehabilitated and up to 500 kms of temporary tracks in Côte d'Ivoire and 200 in Burkina Faso would be constructed. Bush fires would be managed through the establishment of a network of fire breaks and an early burning program. Anti-poaching patrols would be undertaken by groups of village auxiliaries supported by four armed Forest Service personnel at each site. The anti-poaching work would be facilitated by a network of guard posts. Seven small dams (five in Côte d'Ivoire and two in Burkina Faso) will be developed from seasonal water holes. Salt licks will be established and improved at all sites.

5. The Technical Support Unit (TSU) financed by the Project will help the population better exploit, more profitably and in a more sustainable way, a range of natural resources, and forest product processing and marketing. The Project would finance professional analysis of the potential for developing a range of commercial activities, such as the collection and sale of honey and medicinal plants, the collection and processing of natural dies and tannins, and the exploitation of indigenous plants as a source of natural food colorant. Where potential is indicated, the Project would provide initial financial support to communities to establish trial commercial operations.

6. The Project Management Team will encourage the development of safari hunting and ecotourism, but the Project will not directly finance these activities. This will be undertaken by private sector operators who would benefit from project-financed infrastructure, but would not be directly supported by the Project. The Project will finance a series of monitoring and control activities that are essential to ensure that the resource off-take quotas are effectively established and respected, that local and national hunting regulations are adhered to, and that all important game species populations are carefully monitored.

7. **Land Management and Infrastructure Development:** Community-based village land management plans would be prepared and the Project would finance part of the implementation costs of improved land management and infrastructure development. The population will also be required to contribute (see para. 36). The details of the investments at each site will be determined by the communities themselves. Possible activities include, but would not be limited to, soil conservation, small-scale irrigation, animal health, improved agro-pastoral techniques, rangeland management, bee-keeping, agroforestry, vegetable production, roads and water supplies. A summary of possible investments in this component is provided in Appendix 3. Investment in land management and social infrastructure would average US$40,000 per village over the five year period[2].

8. **Project Management:** At each site the Project will finance the construction and maintenance of a small office buildings and accommodation, vehicles and motor bikes, office equipment including a computer, a small generator, audio-visual equipment, radios and other essential equipment. To ensure fully participatory management and commitment by all stakeholders, an annual project planning workshop would be held using a suitable participatory planning technique.

9. **Monitoring and Evaluation:** Within each component, the Project will finance monitoring and evaluation activities that will track project implementation and the institutional, ecological, socio-economic impact of project operations. The Project will train and employ teams of villagers to undertake regular systematic field-level monitoring and evaluation surveys and, where necessary, external specialists to provide technical support for the ecological monitoring program. Details on the monitoring and evaluation program and indicators are provided in Appendix 6.

---

[2] The GEPRENAF will only finance part of these investments.

10. **Links With Other World Bank-Supported Operations:** Project staff will maintain close links with the national community-based land management project in Burkina Faso (PNGT) and in Côte d'Ivoire (PNGTER). These projects will be an important source of technical, managerial and strategic advice to GEPRENAF. The Project also has strong links with the Bank-supported National Environmental Action Plan (NEAP) that already exists in Burkina Faso and which is under preparation in Côte d'Ivoire. The Project's ecological monitoring system will be linked with the existing national environmental monitoring programs in each country. It also has links with the World Bank-supported program to eradicate River Blindness in the region, particularly recent efforts to develop policies to ensure the sustainable economic development and environmental management in the Oncho-freed areas. At a meeting held in Paris in May, 1994 eleven governments of the Oncho-freed region accepted community-based land management approach as the basis for sustainable development and natural resource management in the Oncho-freed zones. The proposed project will adopt this approach, but will also extend it to include a range of wild resources.

11. Also, in Côte d'Ivoire, the Project will be closely coordinated, under a common program, with: (i) the protected area component of the Bank Forestry Sector Project (PSF), which is about to be implemented at Comoé, Azagny and Mont Péko National Parks; and (ii) the National Protected Area Management Project (PCGAP), which is currently being identified. PCGAP's objectives would be: (i) to provide the Government of Côte d'Ivoire with the capacity to efficiently manage the national protected areas system; and (ii) to implement development action plans in selected national parks and adjacent areas. It is expected that GEPRENAF will contribute to the development of a suitable model for buffer zone management of the Comoé National Park that can be replicated by PCGAP.

B. Project Implementation

Project Organization and Management

12. **Phasing:** Project organization and management systems will evolve in three phases, and will need to maintain a very high degree of flexibility during implementation. During Phase I, the focus will be on Village Organizations (VO, para. 15) which would be assisted at each site by the Technical Support Unit (TSU, para. 18). As village-level management skills improve, project organization would enter the transitional Phase II, during which VOs at each site would organize themselves into an informal group which would be the precursor of a formal inter-village association (informal AGEREF[3], para. 16). This is expected to start at the end of the second year of project implementation, but the actual date would depend on progress in the field. Phase III would start approximately one year later with the formalization of the AGEREF . The structure and organization of both the VOs and AGEREFs may need to be modified to incorporate practical lessons learnt during project implementation. During Phases I and II, the TSU will manage project funds and be responsible for project planning and implementation. This

---

[3] *The association will be known by its French acronym, AGEREF: Association pour la gestion des ressources naturelles et de la faune.*

responsibility would be handed over to each AGEREF as soon as that is realistically possible. The evolution of the organization of the Project is presented in a diagram in Appendix 8.

13. The transition from one phase to the next would depend on the development of local skills and management capacity; advance from one stage to the next would therefore be determined by achievement rather than a fixed time-table. The criteria for deciding when advance is possible would include: (i) planning and technical capacity; (ii) proven financial management and accounting skills; (iii) effective local leadership; and (iv) a high degree consensus within the group.

14. **Annual Planning and Programs:** The proposals and budgets for investments in village-level land improvements and socio-economic infrastructure would be based on the *gestion des terroirs* plan proposed by the VO assisted by the TSU. Annual work programs and budgets would form the basis for technical implementation and financial management. They would be prepared by the Project Coordinator (PC, para. 22) in collaboration with the TSU/AGEREF and submitted to the Consultative Group (CG, para. 23) in Burkina Faso and to the Annual Departmental Seminar (ADS, para. 24) in Côte d'Ivoire for comments. Approval would be issued by the Provincial Technical Consultation Group (PTCG, para. 23) in Burkina Faso and National Steering Committee (NSC, para. 25) in Côte d'Ivoire.

15. **Institutional Arrangements**: The Village Organizations (VOs) would be established after an initial period of awareness building and training. To as great an extent as possible they would be based on existing traditional institutions, and should be designed according to the situation in each village, to limit any potential conflict with other traditional structures. The management team of each VO would include a President, Treasurer and Secretary, each with an assistant, and three villagers nominated as local counterparts to the TSU. The three counterpart villagers would focus on: (i) rural development; (ii) wildlife and habitat management; and (iii) coordination with other villages. Each VO management team would include representatives of all resource user groups, including migrants as well as long-term residents, hunters and pastoralists, as well as farmers. Women would be specifically represented. The VO management teams would be open, by invitation of the villages, to groups outside the Project area with a vested interest in the Project.

16. The Associations for Management of Natural Resources and Wildlife (AGEREF) at each site are needed, as the wildlife management zones span the *terroirs* of a number of different villages, and are best managed as a single cohesive unit. The informal AGEREF would provide an initial framework for cooperation between the villages at each site. This would be transformed into a formal AGEREF once the villagers have improved their management skills and appreciate the need for inter-village cooperation. Two representatives from each village would form the General Assembly of the AGEREF and would elect a President, Treasurer, Executive Secretary, Wildlife Zone Manager, Inter-Village Coordinator and a Wildlife Utilization Manager. Until local capacity is effectively developed and the post can be filled by a member of the community, the team leader of the TSU would act as Executive Secretary to the AGEREF.

17. The VOs and AGEREFs would act as independent private, non-profit bodies to: (i) promote local management capacity; (ii) coordinate the implementation of project interventions; (iii) ensure coordination between the different actors at the local level; and (iv) administer and distribute project benefits to local communities according to an agreed formula. Each village would conclude a management agreement, initially with the TSU and subsequently with the AGEREF, to describe the rights and responsibilities of each party, including: (i) the use of the classified forests; (ii) the adoption of improved land use and production practices; (iii) control and supervision of the management of village hunting zones; (iv) support for agro-sylvo-pastoral development; and (v) the system for distributing project income to the population.

18. The Technical Support Unit (TSU) would assist the VOs and the AGEREF at each site. This is necessary because of the limited initial management capacity of the VOs and AGEREFs. The TSU would be recruited under contract to the Government and would report to the PC. It would initially be staffed by technical specialists from outside the communities. The role and responsibilities of each TSU would be defined in the terms of a contract agreed with the Government. As the Project progresses and local capacity increases, community members within the AGEREF would replace TSU members as available skills permit. The role of the TSUs would be to: (i) organize community training and capacity building; (ii) develop an information and public awareness program; (iii) organize the implementation of habitat and wildlife management operations; (iv) establish community-based habitat and wildlife survey systems; define criteria and controls for an effective off-take quota system; (v) organize field level monitoring and evaluation; (vi) train local counterparts; (vii) assist in the creation and operation of the AGEREF; (viii) ensure effective coordination with local administration and government services; and (ix) negotiate - on behalf of the VOs and AGEREF - contracts with private operators.

19. The TSU would comprise: (i) a community-based land management specialist; (ii) a conservation and wildlife specialist; (iii) an accountant/administrator; (iv) a mobile extension team (three people for the first two years, reduced thereafter to one person); (v) an anti-poaching assistant; (vi) a monitoring assistant; and (vii) a secretary and two drivers. The Team Leader would be chosen from one of the two technical specialists. The TSU staff would be recruited after a process of careful pre-selection and adherence to World Bank guidelines for hiring consultants. The contracts would be awarded to a local NGO or consulting firm, or a joint local/international consortia of NGOs and/or consulting firms. It is expected that the majority of the TSU personnel would be national specialists. It is, however, possible that suitably qualified and experienced national candidates for the post of conservation and wildlife specialist may not be easily identified. This program of support is in line with the World Bank's Africa Region Guidelines on the use of technical assistance.

20. The World Conservation Union (IUCN), under contractual arrangement with each government, would provide regular, periodic technical supervision and advice to the two governments and the three TSU/AGEREFs . This is necessary because GEPRENAF is a complex and innovative project and because experience in this type of operation is, inevitably, limited. IUCN is well placed to assume this role as it is the leading technical international NGO in biodiversity conservation. It will draw on the staff of its established base of international

programs[4] to provide technical supervision and advice. IUCN's contact with other similar operations in Africa and throughout the world would contribute to the effective use of available knowledge and information, and enhance the rapid transfer of lessons from one region to another. IUCN would operate at two levels. Firstly, as advisors to the TSU, and subsequently to the AGEREF, IUCN representatives would review progress and advise on: (i) capacity building and human resource development; (ii) management of the biodiversity zones and wildlife areas; (iii) animal and habitat survey, and monitoring and evaluation techniques; (iv) species and habitat management; and (v) sustainable resource utilization and exploitation techniques. Secondly, IUCN would provide advice to the two governments, through their national project coordinators, on project supervision, policy, legislation, institutional and human resource development issues related to the Project.

21. The governments in both countries would have overall responsibility for project implementation through the appropriate technical ministry: The Ministry of Environment and Water (MEE) in Burkina Faso and the Ministry of Agriculture and Animal Resources (MINAGRA) in Côte d'Ivoire. Each Government would be responsible for: (i) overall financial administration, project monitoring, evaluation and supervision; (ii) the review of national policy and legislation relating to the implementation of the Project; (iii) arranging concession of the classified areas to the AGEREFs and negotiation of management contracts; (iv) support to village auxiliary patrols in the arrest and prosecution of poachers; (v) trans-frontier coordination; and (vi) control of professional hunting standards. In addition, the two national natural resource management projects (PNGTER and PNGT) would provide technical support to the AGEREFs and the TSU when needed..

22. A Project Coordinator (PC) would be nominated by the ministry responsible for wildlife in the respective countries. Each PC would coordinate: (i) overall financial administration, project monitoring, evaluation and supervision; (ii) the review of national policy and legislation relating to the implementation of the Project; (iii) arranging concession of the classified areas to the AGEREFs and negotiation of management contracts; (iv) support to village auxiliary patrols in the arrest and prosecution of poachers; (v) trans-frontier coordination; and (vi) control of professional hunting standards. The PC would elaborate the annual work plans and budgets in collaboration with the TSUs, VOs and AGEREFs. Also, the PC would facilitate coordination with other projects with relevance to GEPRENAF (PNGT in Burkina Faso, PNGTER in Côte d'Ivoire). In **Burkina Faso**, the PC would be based in the regional Wildlife Directorate in Banfora. In **Côte d'Ivoire**, the PC would be based in Abidjan. He/she would belong to a local team at the Directorate for the Protection of Nature (DPN) in charge of supervising Bank projects related to conservation.

23. In **Burkina Faso**, information sharing would be facilitated through an informal Consultative Group (CG) including interested ministries, NGOs, donors and private sector operators. Groups not directly involved in the Project, but active in the field of biodiversity conservation and natural resource management, would be invited to participate in the meetings.

---

[4] *(i) Sustainable Use of Wildlife Program; (ii) Social Policy Service Program; (iii) Biodiversity Program; (iv) Environmental Law Centre; (v) Species Survival Commission; and (vi) National Parks and Protected Areas Program.*

The purpose of the CG would be to establish a forum for the exchange of information relating to the Project. It would have no authority or responsibility for project planning and decision-making. The ministry responsible for wildlife in each country would be chair the CG and the secretariat would be assured by the PC. The CG would meet at least once a year. The existing Provincial Consultation Group (PTCG) would review and approve village-level investments[5], approve annual work plans and budgets as well as the progression of the Project from one phase to another. It would also ensure that project investments complement existing development plans and that there is no duplication of effort and investments. The committee would be chaired by the senior local administrator (Haut Commissaire) with a secretariat for matters relating to the Project provided by the PC. The PTCG would meet every trimester.

24. In **Côte d'Ivoire,** Annual Departmental Seminars (ADSs) would be organized in each Department (Ferkessedougou for Warigué and Dabakala for Monts Tingui) by the PC to gather input on the Project's annual work program and budget. The seminar would be chaired by the local senior administrator (Prefet) with a secretariat provided by the PC. The seminar would be open to the technical services interested in the various GEPRENAF components (Agricultural and Planning Services, Directorate of Tourism, etc.), NGOs working on related projects in the area, representatives of the AGEREF and the TSU, and elected political representatives. The objective is to provide a forum to comment openly on annual work and investment plans, to verify that project investments complement existing development plans, and to avoid duplication of effort and investments. A National Steering Committee (NSC) would be the principal authority for project management. It would review and approve village-level investments, the annual work plan and budgets as well as the progression of the Project from one phase to another. It would consist of representative ministries and would be chaired by the ministry responsible for wildlife with the secretariat assured by the PC. The NSC would meet at least once a year.

Coordination

25. At each project site, day-to-day coordination would be the responsibility of the TSU/AGEREF. Particular site-specific coordination needs include, for **Burkina Faso,** operational cooperation with the proposed Koflandé Game Ranch to the north of the Project area and, for the two **Côte d'Ivoire** sites, cooperation with the authorities of the Comoé National Park (see map of the general area). Cooperation would include anti-poaching operations, ecological monitoring, and training and extension work with villages. At the **national level**, each PC would facilitate coordination with other projects with relevance to GEPRENAF (PNGT in Burkina Faso, PNGTER in Côte d'Ivoire).

26. Coordination at the **national level in Burkina Faso** would be facilitated through the informal Consultative Group (CG). The purpose of the CG would be to establish a forum for the exchange of information relating to the Project. At the **local level** the existing Provincial Consultation Group (PTCG) would coordinate GEPRENAF activities with other projects in the region to ensure complementarity and avoid duplication of efforts.

---

[5] *By appraisal the PTCG has started working at Banfora in Burkina Faso. Seminars have already been organized with departmental representatives at Ferkessedougou and Dabakala in Côte d'Ivoire for the other two sites.*

27. In **Côte d'Ivoire, at the national level,** the National Steering Committee (NSC) would review and approve the annual work plan and budgets. At the **local level** the Annual Departmental Seminar (ADS) would be organized to provide a forum to comment openly on annual work and investment plans, to coordinate with existing development plans and to avoid duplication of effort and investments.

28. At the **international level** coordination would be guided by a formal agreement between the two countries paying particular attention to cooperation on anti-poaching, bushfire management and ecological monitoring. In addition, representatives of the three TSU/AGEREFs would meet regularly to discuss: (i) developing compatible plans for habitat and wildlife development, anti-poaching, bush-fire management, use of secondary forest products, commercial and subsistence hunting, and ecotourism; and (ii) exchanging information on habitat and wildlife management, training, socio-economic development, popular participation, and land and resource tenure problems.

Capacity Building

29. An analysis of training needs has led to the development of a detailed training program which includes all those involved with the Project (communities, local leaders, local administrators, and technical staff). The details of this program are presented in the Implementation Manual. The TSU would have overall responsibility for organizing the training program, and would recruit suitably qualified groups and individuals to present the various modules. The mobile extension teams would include one trainer who would undertake village-level training aimed at local capacity-building, planning and project management. Selection of the individuals to receive training would be undertaken by the TSUs for village-level training, and by the PTCG in Burkina Faso and PC in Côte d'Ivoire for the other levels.

Habitat and Wildlife Management

30. The identification of village *terroirs,* and the determination of wildlife management zones and agro-sylvo-pastoral zones would be undertaken by the communities, supported by the TSU, using the participative rural appraisal techniques increasingly employed by *gestion des terroirs* projects in the region (see Appendix 3 for details). The preparation of village land management plans would include details of the development of the wildlife management zone. Through this process the specific and agreed undertaking of the community to manage wild resources would be clearly stated. Through the plan, progress on habitat and wildlife management would be contractually linked to the provision of social infrastructure and other socio-economic benefits. The plan would also include the identification of pastoral zones, where necessary, and the corridors for transhumant livestock.

31. The wildlife management zone would be selected to ensure the greatest potential for habitat and wildlife management, and minimal disturbance of, and by, human activity. There are no villages nor cultivation currently inside the areas initially identified for the potential wildlife management zones. There will therefore be no resettlement. The majority of habitat management work would be undertaken by local villagers under contract to the TSU/AGEREF. Labor-

intensive techniques would be used wherever possible. Where necessary, local contractors would be engaged to design and supervise work on the more complicated structures, such as drifts at river crossings. In most of the wildlife management zones the natural vegetation is still in good condition and only limited direct rehabilitation work is necessary. Effective protection from uncontrolled fires, uncontrolled grazing and uncontrolled hunting would do a great deal to improve the current situation. It will be particularly important to ensure effective protection for the areas of gallery forest and forest islands that are highly valuable as biodiversity "hot spots". The bush fire control program would encourage the ecologically positive aspects of controlled, low-heat early season fires and avoid the destructive aspects of uncontrolled, high intensity late season fires. Day-to-day organization of anti-poaching patrols would be the responsibility of the TSU/AGEREF but under the authority and overall supervision of the local Forest Service officer currently responsible for anti-poaching activities in the area. It will be very important to link the anti-poaching operations at the three sites with an effective regional program.

32. The exploitation of indigenous plants has a potential that requires specialized research and development. The Project would obtain technical guidance on the exploitation of the medicinal plants of the area from the Traditional Pharmacopoeia Center at Banfora Hospital and on developing the potential for exploiting traditional plant sources of dyes and tannins from a specialized research unit at the University of Ouagadougou, Burkina Faso. Potential commercial outlets in Europe and North America will be explored. Improvements in traditional hunting would be achieved by training hunters to better organize, select age and sex of prey, and replace the non-selective snares and gin-traps. Annual off-take rates for the most numerous species would be 20 percent of the estimated annual increment of the species. It is, however, unlikely that this quota could be effectively imposed during the early years of the Project.

33. Although not directly financed under the Project, the development of safari hunting would be a long-term operation that would provide important revenue to local communities, and thus a strong incentive to manage the habitat and wildlife populations in a sustainable way. This activity would be implemented by professional, commercial guides contracted to the TSU/AGEREF. A substantial part of the profits from this operation would go to the villages. The trophy and area fees would be payable to the local communities. Safari hunting is already a well-established commercial activity in Burkina Faso. In Côte d'Ivoire it has not been a legal activity for twenty years, though the decision has now been taken to lift the ban once certain conditions are fulfilled. Despite relatively low animal numbers, selective off-take of certain species would be possible in the second year of project operations. After initial pre-selection, the contract for hunting concessions and for possible ecotourism activities would be let through competitive bidding. It will be of the utmost importance that the highest possible professional standards are maintained. The TSU/AGEREFs and IUCN would have important roles in respectively organizing and supervising the process of letting these contracts and monitoring progress. However, the responsibility for overall control of professional standards lies with the government of each country.

Social Infrastructure

34. Infrastructure development outside the wildlife management zones is a high priority for the population in the Project area, and will provide essential support to the habitat and wildlife management operations. Using the *gestion des terroirs* strategy, village land management plans would be prepared which indicate local priorities for agro-sylvo-pastoral and socio-economic development. Investment in land management and infrastructure development would be linked to progress with habitat management and biodiversity conservation through the village land management plans. The plans would include details of monitoring criteria and procedures, and the identification of mechanisms to adjust the management plan as a result of feed-back from the monitoring system.

35. The details of land management and infrastructure development activities would be determined by the communities themselves. Once specific activities have been identified and agreed upon by the VOs, within the framework of a village land management plan, the TSU would contact the PTCG in Burkina Faso and the NSC in Côte d'Ivoire to obtain approval of the plan. The TSU would then identify and contact appropriate local contractors. Depending on the type of investment this could be either a government service (e.g., agricultural extension, veterinary service, education), a non-government organization or a private contractor. The final details of implementation would be determined during discussions between the community, the TSU and the executing agency. The contractor would prepare detailed cost proposals for approval by the TSU and the VO. The TSU would also review the proposals for possible negative environmental impact, and propose any necessary mitigating actions.

36. All communities would contribute towards the costs of land management and infrastructure investment by providing unqualified labor and eventually contributing to the financing the operation. The level of contribution of each village would be determined by its revenue level from the Project's natural resource exploitation activities. Three levels of contribution are proposed:

Level	Average annual *per capita* revenue from Project	Contributions
1	Less than 2,000 CFAF	20 percent of labor requirements No cash contribution
2	From 2,000 CFAF to 6,000 CFAF	20 percent of labor requirements Up to 5 percent of investment cost
3	More than 6,000 CFAF	20 percent of labor requirements Up to 10 percent of investment cost

Monitoring and Evaluation

37. GEPRENAF is a flexible pilot operation in which many of the details of implementation will be decided by the local participants during implementation. This means that effective monitoring is particularly important, and mechanisms will need to be established to ensure that lessons learnt are effectively applied in the field. The factors to be monitored include:

(a) **Institutional** - (i) village groups' management capacity; (ii) AGEREF's management capacity; (iii) rates of replacement of the initial TSU staff by local personnel; (iv) effectiveness of anti-poaching operations, control of grazing and logging; (v) level of participation by village groups in project activities; (vi) efficiency and local perceptions of the benefits distribution system;

(b) **Ecological** - (i) changes in numbers and distribution of animals and herd composition; (ii) records of animals and plants exploited; (iii) changes in vegetation; (iv) changes in numbers of indicator species; (v) changes in land use and production systems;

(c) **Socio-economic** - (i) crop and livestock yields and prices; (ii) changes in family income and employment; (iii) changes in attitudes to the management of natural resources; (iv) immigration patterns in each village *terroir;* and (v) gender-related impact on access to benefits and influence on management decisions.

(d) **Project implementation** - (i) details of use of funds, audit of accounts, procurement and disbursement; (ii) implementation of habitat improvement, land management and infrastructure development programs; and (iii) execution of contracts with private sector operators.

38. The organization of the monitoring program would initially be the responsibility of each TSU, which would be required to produce regular quarterly monitoring reports. Data collection would be undertaken at two levels. First, simple field and village data collection techniques would be used to collect the bulk of monitoring information. Second, certain technical tasks, such as aerial surveys and monitoring ecological changes, would be implemented by technical specialists under contract to the TSU/AGEREF. It will be important to coordinate the Project's ecological monitoring with the program for the Comoé National Park in Côte d'Ivoire. The two national universities would be contracted to undertake specific studies related to monitoring as required. While the IUCN would supervise the monitoring programs, each government would retain overall responsibility for monitoring and evaluation.

39. Each TSU/AGEREF would use a simple geographic information system (GIS) as an aid for planning and monitoring and evaluation. It would operate at a 1:50,000 scale and be based on visual mapping and thematic interpretation of satellite photographs. It would be run on the Project PC at each site. Information on the monitoring and evaluation (M&E) operations and quantifiable indicators are presented in Appendix 6.

Revenue Management and Benefit Stream

40. The establishment of a flow of tangible project benefits to the local populations is crucial. All steps of the distribution system of project benefits must be clear and transparent and must be related to each village's contribution to the generation of the benefits. Village-level revenue would come from: (i) safari hunting; (ii) ecotourism; (iii) the sale of game meat; and (iv) the sale of secondary forest products. Each TSU/AGEREF would have overall responsibility for

distributing profits from these centrally organized activities to the communities. They would need to make sure that the control of the management of benefits does not fall into the hands of one small influential group of villagers. Initially, during phase 1, each village would receive the benefits from resources within its own wildlife management zone. The benefits from the community-based resource management operations (as opposed to individually earned wages) would be allocated according to a formula designed to establish the base for sustainable project management and financial systems. The allocations would be the same for all phases of project development: 40 percent would be allocated directly to the villagers through the VO commercial bank account; 15 percent would be paid into village's Village Development Fund, which would initially be managed by the TSU/AGEREF; 30 percent would be allocated to operational project costs (roads, habitat improvement etc.) and would be managed by the TSU/AGEREF; and 15 percent would be allocated to costs of local government services (support for anti-poaching, land management advice, coordination, monitoring etc.).

41. Revenue from project activities would be managed using village-level financial procedures based on systems currently being used by community-based natural resource management projects in the region. It is designed to take into account the initially limited management capacity of the local population. As with the development of project organization (para. 12-24), the revenue management of the Project would evolve in three phases.

42. Phase I would last for approximately two years and would be based around a small Village Imprest Fund, managed by the Treasurer of each VO. Such Imprest funds already exist in a number of villages in the Project area. The Village Imprest Fund would hold receipts from wildlife and wild resource utilization activities, up to a maximum of 100,000 CFAF. Any amounts larger than this would be deposited in a commercial bank account in the name of the VO. Payments to and withdrawals from the account would require the co-signatures of the VO President and Treasurer and the Head of the TSU. The TSU accountant would train and assist each VO Treasurer in maintaining simple accounts that would require monthly balances and quarterly summaries of payments and receipts. These would be reviewed by the TSU and discussed at quarterly VO meetings.

43. Phase II would be a transition period which would last approximately one year, but the moment of change would be determined by local level capacity rather than a fixed calendar. The focus of financial management would move from the individual Village Associations to an inter-village committee (informal AGEREF) at each site. While the VOs would continue to operate Imprest funds and a bank account, the informal AGEREF would begin to promote inter-village operations, some of which would generate revenue for the community. The informal AGEREF would create a small Financial Management Group with representatives of the informal AGEREF and the TSU. An account for receiving payments and distributing revenue would be established for the informal AGEREF. The account would be managed by the TSU Accountant, assisted by the trainee accountant for the AGEREF.

44. As the extent of each village's wild land management zone is different, it might be expected that the allocation of benefits derived from the use of resources in this zone would reflect this difference. However, there are other ways of distributing benefits. The main options

would be: (i) to continue direct payment of benefits to the particular village at the site of utilization; (ii) a *pro rata* system reflecting the percentage area of each village in the total AGEREF wildlife management zone; or (iii) a *pro rata* system reflecting the percentage population of each village in the AGEREF total area. One important task for the informal AGEREF at each site would be to consider the options and decide on the locally preferred system. As the amounts of undisturbed wild lands within each village *terroir* varies considerably the extent of the area managed by each village may also vary[6]. Depending on the revenue distribution system finally negotiated, this variation could influence the levels of income and benefits each village can expect to receive from the natural resource utilization component of the Project. A fair solution will be sought for villages without land in the Wildlife Management Zone but included in the Project because of their long-standing interests, even if not direct rights, in the use of the natural resource within the area. For example, many of the villagers from these adjacent communities hunt in the Wildlife Management Areas and might jeopardize the future of the Project if they were not directly involved. governments would eventually concede to AGEREFs, representative of the Project area community, the authority and responsibility to manage the Wildlife Management Areas, including their portion of classified forests, on the basis of a negotiated management contract. The agro-sylvo-pastoral zones, outside the areas designated for wildlife management, would remain directly under each traditional village authority, but investments would be coordinated and sponsored by the AGEREF where necessary.

45. Phase III would start at each site with the creation of the formal AGEREF. Although the VOs would continue to operate their Imprest funds and bank accounts, the AGEREF would play a very active role in organizing revenue earning activities and distributing the benefits to the villages and other participants. The former, transitory informal AGEREF Financial Management Group would be replaced by the AGEREF Accountant working under the control of the AGEREF's Executive Secretary. The transition to Phase III would take place after the TSU has carefully evaluated the management and technical skills of the key members of the AGEREF. The transition would need to be reviewed and approved by the PTCG in Burkina Faso, the NSC in Côte d'Ivoire and the World Bank.

C. Project Reporting and Supervision

46. As an innovative, pilot operation GEPRENAF will require regular reporting and careful supervision. Each TSU would provide regular quarterly reports on progress and a detailed annual report. This would compare achievements against expectations, identify lessons learnt during the year and propose adjustments and improvements to planning and implementation methodologies. The Project will require more intense supervision than normal. It will be necessary for both the technical and management aspects of the Project. Supervision would take place at three levels. First, the local coordinating committees would review project plans and progress. Second, with the assistance of IUCN, the national coordinators would supervise the progress of the Project through site visits, meetings with the communities and discussions with the

---

[6] *The undisturbed areas vary from virtually no land at all, for villages in the eastern part of the Burkina Faso site and the south-western part of both Côte d'Ivoire sites, to over 40,000 ha for the village of Folonzo at the Burkina Faso site.*

Project team. These routine field visits should take place ever four months. Third, the World Bank, co-financiers and governments would undertake two supervision missions each year to each site. The skill mix of each supervision mission would depend on the needs and state of the progress, and a considerable amount of flexibility would therefore be required. A **mid-term review** of the Project would focus on these essential aspects: (i) habitat management and the state of biodiversity conservation; (ii) the effectiveness and profitability of natural resource utilization; (iii) the impact of the Project on the socio-economic development of the population in the Project area; (iv) project management, institutional development and local capacity building; and (v) monitoring and evaluation, and its feedback to project management. Each aspect would be the subject of a specific study to assess progress, identify constraints and propose necessary corrective measures.

COSTS, FINANCING, PROCUREMENT, DISBURSEMENT

A. Project Costs

47. Project costs are summarized in Tables 1.1 and 1.2.

B. Project Financing

48. The financing plan for the Project is presented in Tables 2.1 and 2.2.

BURKINA FASO

Table 1.1 : PROJECT COST ESTIMATES

	CFAF million			US$'000			% Foreign	% Total Base
	Local	Foreign	Total	Local	Foreign	Total	Exchange	Costs
A. Capacity Building	193.2	112.1	305.3	351.2	203.9	555.1	37	15
B. Wildlife and Habitat Management	459.3	228.6	687.9	835.1	415.7	1,250.8	33	33
C. Land Management and Social Infrastructure	204.2	68.3	272.5	371.3	124.1	495.4	25	13
D. Project Management	505.4	300.6	806.0	918.9	546.5	1465.4	37	39
Total Baseline Costs	**1,362.1**	**709.6**	**2,071.7**	**2,476.5**	**1,290.1**	**3,766.7**	**34**	**100**
Physical Contingencies	136.2	71.0	207.2	247.7	129.0	376.7	34	10
Price Contingencies	151.9	38.0	189.9	276.3	69.1	345.3	20	9
Total Project Costs	**1,650.3**	**818.5**	**2,468.8**	**3,000.5**	**1,488.2**	**4,488.7**	**33**	**119**

Totals may not tally as numbers have been rounded off.

CÔTE D'IVOIRE
Table 1.2 : PROJECT COST ESTIMATES

	(CFAF million)			(US$'000)			% Foreign	% Total Base
	Local	Foreign	Total	Local	Foreign	Total	Exchange	Costs
A. Capacity Building	453.9	174.3	628.2	825.3	316.8	1,142.1	28	16
B. Wildlife and Habitat Management	1,151.2	343.5	1,494.7	2,093.1	624.5	2,717.6	23	38
C. Land Management and Social Infrastructure	428.2	62.4	490.7	778.6	113.6	892.2	13	13
D. Project Management	1,048.4	238.0	1,286.4	1,906.3	432.8	2,339.1	19	33
Total Baseline Costs	**3,081.8**	**818.2**	**3,900.0**	**5,603.3**	**1,487.7**	**7,091.0**	**21**	**100**
Physical Contingencies	308.2	81.8	390.0	560.3	148.8	709.1	21	10
Price Contingencies	442.8	56.1	498.9	805.1	101.9	907.0	11	13
Total Project Costs	**3,832.8**	**956.1**	**4,788.9**	**6,968.8**	**1,738.4**	**8,707.1**	**20**	**123**

Totals may not tally as numbers have been rounded off.

BURKINA FASO
Table 2.1 : FINANCING PLAN BY PROJECT COMPONENT

	Government a/	Global Environment Facility	Belgium Cooperation Agency	Population	Total
	(US$'000)				
A. Capacity Building	56.8	374.1	197.1	-	**628.0**
B. Wildlife and Habitat Management	135.8	894.7	471.5	-	**1,502.0**
C. Land Management and Social Infrastructure	18.3	341.2	180.2	112.1	**651.8**
D. Project Management	154.3	1,016.8	535.8	-	**1,706.9**
Total	**365.2**	**2,626.8**	**1,384.6**	**112.1**	**4.488.7**

a/ Including duties and taxes amounting to US$184,500 equivalent

CÔTE D'IVOIRE
Table 2.2 : FINANCING PLAN BY PROJECT COMPONENT

	Government a/	Global Environment Facility	Belgium Cooperation Agency	Population	Total
	(US$'000)				
A. Capacity Building	160.4	691.0	476.1	-	**1,327.5**
B. Wildlife and Habitat Management	486.9	1,777.2	1,224.6	-	**3,488.7**
C. Land Management and Social Infrastructure	110.0	507.3	351.3	188.4	**1,157.0**
D. Project Management	374.2	1,397.0	962.6	-	**2,733.9**
Total	**1,131.6**	**4,372.5**	**3,014.6**	**190.1**	**8,707.1**

a/ Including duties and taxes amounting to US$357,200 equivalent

C. Procurement

49. No *International Competitive Bidding* (ICB) contract is expected. However, should the value of individual contracts for civil works and goods be greater than US$250,000 equivalent, the World Bank's standard bidding documents for ICB would be used. Prior review by the Bank of all contracts for civil works, goods and consultant firm services exceeding US$100,000 equivalent and individual consultant services exceeding US$50,000 equivalent would be required. Table 3 summarizes the expected procurement for the Project. A standard procurement schedule is presented in Appendix 11.

SUMMARY OF PROPOSED PROCUREMENT ARRANGEMENT
(GEF and Belgian Financing)

	CÔTE D'IVOIRE			BURKINA FASO		
	(US$'000)					
	NCB	**Other***	**Total**	**NCB**	**Other***	**Total**
A. Civil Works						
Project Building Construction	447.7	-	447.7	452.0	-	452.0
	(235.1)		(235.1)	(269.2)		(269.2)
	[162.0]		[162.0]	[141.9]		[141.9]
Social Infrastructure	570.3	190.1	760.4	337.4	112.5	449.9
	(253.2)	(84.4)	(337.7)	(165.7)	(55.2)	(221.0)
	[174.5]	[58.2]	[232.7]	[87.3]	[29.1]	[116.4]
Biodiversity Zone Rehabilitation	509.6	56.6	566.3	367.3	40.8	408.1
	(267.6)	(29.7)	(297.4)	(218.8)	(24.3)	(243.1)
	[184.4]	[20.5]	[204.9]	[115.3]	[12.8]	[128.1]
B. Goods & Vehicles						
Vehicles	626.8	209.0	835.8	310.3	103.4	413.7
	(241.5)	(80.5)	(321.9)	(184.8)	(61.6)	(246.5)
	[166.4]	[55.5]	[221.8]	[97.4]	[32.5]	[129.9]
Equipment	327.6	109.2	436.8	240.7	80.2	320.9
	(156.2)	(52.1)	(208.3)	(143.4)	(47.8)	(191.1)
	[107.6]	[35.9]	[143.5]	[75.5]	[25.2]	[100.7]
C. Consultant Services & Training						
Studies	-	421.7	421.7	-	185.4	185.4
		(221.4)	(221.4)		(110.4)	(110.4)
		[152.6]	[152.6]		[58.2]	[58.2]
Technical Assistance	-	944.0	944.0	-	553.1	553.1
		(495.7)	(495.7)		(329.5)	(329.5)
		[341.6]	[341.6]		[173.6]	[173.6]
Training	-	880.0	880.0	-	405.2	405.2
		(462.1)	(462.1)		(241.4)	(241.4)
		[318.4]	[318.4]		[127.2]	[127.2]
D. Incremental Operating Costs**	-	3,414.3	3,414.3	-	1,300.4	1,300.4
		(1,792.9)	(1,792.9)		(774.6)	(774.6)
		[1,237.0]	[1,237.0]		[408.6]	[408.6]
TOTAL	**2,482.1**	**6,225.0**	**8,707,1**	**1,707.7**	**2,780.0**	**4,488.7**
	(1,153.6)	**(3,218.9)**	**(4,372.5)**	**(982.0)**	**(1,644.8)**	**(2,626.8)**
	[794.9]	**[2,219.7]**	**[3,014.6]**	**[517.4]**	**[867.2]**	**[1,384.6]**

* Non NCB procurement arrangements were aggregated as other (direct contracting methods, shopping; etc...).

** Incremental Operating Costs include vehicles and equipment operation and maintenance, office and field supplies, local travel and subsistence, and non-consultancy salaries.

Note: Figures in parenthesis are the respective amounts financed by GEF Grant. Figures in brackets are the respective amounts financed by the Belgian Grant Totals may not tally as numbers have been rounded off.

50. **Civil works**: Civil works financed under this Project include: (i) Project offices and stores, physical infrastructure in the wildlife management zones (dams, roads, firebreaks); (ii) land management works in the village zones (soil and water conservation structures, small-scale irrigation facilities, tree planting); and (iii)social infrastructure in the villages (wells, roads, earth dams etc.). All civil works undertaken under the Project will be implemented either directly by local communities under the supervision of the Technical Support Unit, or under contract with local agencies. Labor-intensive methods will be employed wherever possible.

51. No contract is expected to be over US$250,000. However, in case during project implementation an individual contract is estimated to exceed the threshold of $250,000, it would be procured by *International Competitive Bidding* (ICB). Because of the small value of the individual contracts *National Competitive Bidding* procedures (NCB) will be used for individual contracts below US$250,000 and over US$10,000 and aggregating to no more than US$756,000 to be financed by the GEF Grant and US$520,000 to be financed by the Belgian Grant for Côte d'Ivoire and US$655,000 to be financed by the GEF Grant and US$345,000 to be financed by the Belgian Grant for Burkina Faso.

52. Contracts for works, such as the construction of temporary tracks, fire breaks and small dams and other biodiversity zone rehabilitation works below US$10,000, and aggregating to no more than US$114,000 to be financed by the GEF Grant and US$79,000 to be financed by the Belgian Grant for Côte d'Ivoire and US$80,000 to be financed by the GEF Grant and US$42,000 to be financed by the Belgian Grant for Burkina Faso, will be awarded to the VOs or AGEREF on whose *terroir* the work is to be carried out by community participation.

53. **Goods**: Goods financed under the Project include vehicles, office equipment, spare parts, survey equipment, camping and anti-poaching equipment which, to the extent possible, should be grouped into lots. No contract is expected to be over US$250,000. However, in case during project implementation an individual contract is estimated to exceed the threshold of $250,000, it would be procured by *International Competitive Bidding* procedure. All individual contracts for goods, vehicles, materials and equipment totaling less than US$250,000 and more than US$30,000, and aggregating to no more than US$398,000 to be financed by the GEF Grant and US$274,000 to be financed by the Belgian Grant for Côte d'Ivoire and US$328,000 to be financed by the GEF Grant and US$173,000 to be financed by the Belgian Grant for Burkina Faso respectively, will be procured through *National Competitive Bidding*.

54. The remaining goods which cannot be grouped into bid packages of at least US$30,000 equivalent, aggregating to US$113,000 to be financed by the GEF Grant and US$82,000 to be financed by the Belgian Grant for Côte d'Ivoire and US$98,000 to be financed by the GEF Grant and US$51,000 to be financed by the Belgian Grant for Burkina Faso, would be procured on the basis of shopping by obtaining price quotations of at least three suppliers, where that is reasonably possible. Some technical goods, not likely to be available from more than one supplier, e.g., SPOT satellite images, aggregating to no more than US$20,000 to be financed by the GEF Grant and US$10,000 to be financed by the Belgian Grant for Côte d'Ivoire and US$12,000 to be financed by the GEF Grant and US$7,000 to be financed by the Belgian Grant for Burkina Faso, will be obtained under *sole source* procurement given the small total

amount and unique technical requirement. All procurement procedures will be in accordance with the *Bank Guidelines for Procurement under IBRD loans and IDA Credits* of January, 1995. The total value of goods to be purchased by the GEF Grant is US$530,000 for Côte d'Ivoire and US$438,000 for Burkina Faso. The total value of goods to be purchased by the Belgian Grant is US$366,000 for Côte d'Ivoire and US$231,000 for Burkina Faso.

55. **Services:** All technical assistance, training and studies totaling US$1,180,000 to be financed by the GEF Grant and US$813,000 to be financed by the Belgian Grant for Côte d'Ivoire and totaling US$681,000 to be financed by the GEF Grant and US$359,000 to be financed by the Belgian Grant for Burkina Faso, would be contracted in accordance with the Bank's *Guidelines on the Use of Consultants by World Bank Borrowers and by the World Bank as Executing Agency (August 1981)*. Apart from the contracts for each TSU, all consultant services would be procured through short-term contracts. A prior review threshold for firm and individual consultant contracts are respectively set to US$100,000 and US$50,000. All contracts for consultants, technical assistance (para. 3), training (para. 2) and studies (para. 5) above these amounts will be subject to prior review by the World Bank. Terms of reference of each contract, *sole source* and complex assignments will be also subject to prior review even if their amounts are lower than the thresholds established above.

D. Disbursement

56. The GEF Grant, equivalent to US$4.38 million for Côte d'Ivoire and 2.64 million for Burkina Faso, will be administered by the Bank and as such, will follow the disbursement procedure outlined below.

57. The Belgian Grant, equivalent to US$3.02 million for Côte d'Ivoire and US$1.39 million for Burkina Faso, will be administered by the Bank through the GEF under joint cofinancing and, as such, will follow the disbursement procedures outlined below.

58. Of the total grant amount jointly cofinanced, the GEF Grant will finance 60 percent and the Belgian Grant will finance 40 percent.

59. The anticipated disbursements are summarized in Tables 4.1 and 4.2. The GEF Grant and the Belgian Grant will be disbursed over a period of five years, following the standard disbursement profile for West Africa (see Tables 5.1 and 5.2).

60. All disbursements will be fully documented, however, the Statement of Expenditure (SOE) would be used for training, operating costs, and contracts for goods, works and services with consulting firms costing less than US$100,000 equivalent. An SOE would also be used for individual consultants' contracts costing less than US$50,000 equivalent. The PC would retain all documents for review by the Bank and by the auditors. Given the availability of the Special Account (SA), the minimum application for direct payment would normally be for the equivalent of 20 percent of the initial deposit to the SA.

61. To expedite disbursements, and to ensure that funds are available when needed, each government will open a *Special Account* (SA) in CFAF. In Côte d'Ivoire this account would be managed by the CAA[7], in Burkina Faso it would reside in a commercial bank acceptable to the World Bank. In both countries, the governments will also open a *Project Account* into which the Government's portion of the Project costs will be deposited. To facilitate disbursement and implementation at the site level, *Regional Advance Accounts* will be established at a suitable commercial bank nearest to each project site. At each site, *Regional Advance Accounts* would be replenished by the *Special Account* and by the *Project Account*. All accounts will be established under terms and conditions satisfactory to the World Bank. They will be used to finance the local and foreign costs of eligible expenditures financed by GEF and Belgian Grants.

62. In **Côte d'Ivoire**, as a condition of Grant Effectiveness, the Government will deposit an amount of US$100,000 equivalent into the *Project Account*. Then, an initial amount of US$500,000 equivalent will be deposited by the Bank in the *Special Account* according to the respective percentages of financing of the GEF and Belgian Grants. The PC will subsequently deposit into each *Regional Advance Account*, an amount not greater than US$100,000 equivalent, corresponding to the first quarter's work plan budget of the Project sites as established by the TSU and PC and approved by the Bank.

63. In **Burkina Faso**, as a condition of Grant Effectiveness, the Government will deposit in the Project *Account* an amount of CFA 25,000,000. Then, an initial amount of US$250,000 equivalent will be deposited by the Bank in the *Special Account* according to the respective percentages of financing of the GEF and Belgian Grants. The PC will then transfer to the *Regional Advance Accounts*, an amount not to be greater than US$100,000 equivalent, corresponding to the first quarters work plan budget of the Project site as established by the TSU and PC and approved by the Bank.

64. In **Côte d'Ivoire**, each TSU, and subsequently each AGEREF, which will take over the *Regional Advance Accounts* from the TSU when they are established, will prepare quarterly replenishment requests for the *Regional Advance Accounts* and submit them to the PC. The Government will prepare disbursement requests which will be submitted to the Bank who will replenish the *Special Account* upon receipt of: (i) proof that the Government has replenished the *Project Account*; (ii) satisfactory proof of incurred expenditure and evidence that such expenditures were eligible for financing; and (iii) a satisfactory three-month work plan. Up-to-date bank statements and reconciliation of the accounts will accompany replenishment requests.

65. In **Burkina Faso**, each TSU, and subsequently each AGEREF, which will take over the *Regional Advance Accounts* from the TSU when they are established, will prepare a quarterly replenishment request for the site accounts and submit it to the PC. The Government will prepare disbursement requests to the Bank who will replenish the *Special Account* upon receipt of: (i) proof that the Government has replenished the Project *Account*; (ii) satisfactory proof of incurred expenditure and evidence that such expenditures were eligible for financing; and

---

[7] *CAA stands for Caisse Autonome d'Amortissement which is a parastatal organization which manages external loans and grants in the Ivory Coast.*

(iii) a satisfactory three-month work plan. Up-to-date bank statements and reconciliation of the accounts will accompany replenishment requests.

66. **The Project Implementation Schedule:** A disbursement schedule is outlined in Table 5 and a detailed implementation schedule is presented in Appendix 9. An early start to project implementation will be facilitated by a Pre-Implementation Phase, funded out of the Project Preparation Advance, that will include: (i) training and awareness-building for villagers and local government officials; (ii) preselection and identification of candidates for the recruitment of the TSU's personnel; (iii) preparation of bidding documents for the construction of project buildings; (iv) establishment of Project accounting systems at both the national and site levels; and (v) preparation for the procurement of vehicles and essential equipment. This would be organized by the PCs who would contract the bulk of the work to suitably qualified NGOs or local consulting firms.

BURKINA FASO
Table 4.1 : SUMMARY OF DISBURSEMENTS

	(US$'000)			
Category of Expenditure	**GEF Grant**	**Belgian Grant**	**% Local Financing**	**%Foreign Financing**
1. Civil Works	670	350	90	100
2. Goods and Vehicles	400	210	90	100
3. Consultant Services & Training	620	330	100	100
5. Incremental Operating Costs	710	370	90	-
6. Unallocated	227	125		
TOTAL	**2,627**	**1,385**		

*Incremental Operating Costs include vehicles and equipment operation and maintenance, office and field supplies, local travel and subsistence, and non-consultancy salaries.

CÔTE D'IVOIRE
Table 4.2 : SUMMARY OF DISBURSEMENTS

	(US$'000)			
Category of Expenditure	**GEF Grant**	**Belgian Grant**	**%Local Financing**	**%Foreign Financing**
1. Civil Works	790	550	90	100
2. Goods and Vehicles	490	340	75	100
3. Consultant Services & Training	1070	740	100	100
5. Incremental Operating Costs	1,630	1,120	90	-
6. Unallocated	393	265		
TOTAL	**4,373**	**3,015**		

* Incremental Operating Costs include vehicles and equipment operation and maintenance, office and field supplies, local travel and subsistence, and non-consultancy salaries.

BURKINA FASO
Table 5.1 : ESTIMATED DISBURSEMENTS BY YEAR

US$million

	Year 1	Year 2	Year 3	Year 4	Year 5
GEF Grant	0.83	0.70	0.35	0.50	0.25
Belgian Grant	0.44	0.37	0.19	0.24	0.14
Total per year	**1.27**	**1.07**	**0.54**	**0.74**	**0.39**
Total cumulative	**1.27**	**2.34**	**2.88**	**3.62**	**4.01**

CÔTE D'IVOIRE
Table 5.2 : ESTIMATED DISBURSEMENTS BY YEAR

US$million

	Year 1	Year 2	Year 3	Year 4	Year 5
GEF Grant	1.28	1.05	0.72	0.68	0.64
Belgian Grant	0.88	0.72	0.49	0.47	0.45
Total per year	**2.16**	**1.77**	**1.21**	**1.15**	**1.09**
Total cumulative	**2.16**	**3.93**	**5.14**	**6.29**	**7.38**

E. Accounts and Audit

67. The primary Project accounts, *Special Account* and *Project Account*, will be maintained by the headquarters of the lead technical ministry. *Regional Advance Accounts* will be maintained by the TSU until the AGEREF is effectively established and staffed with a suitably trained and experienced accountant. Both accounts will be maintained in a manner consistent with sound accounting practices which will reflect fairly, in accordance with international accounting standards, the situation of the Project.

68. Audited accounts and reports (short-form report, special report on the utilization of the GEF and Belgian grants and the management letter) for each year would be audited by qualified independent auditors acceptable to the Bank. The audit will include specific verification of the legitimacy of all expenditures and an opinion on the reliability of the SOE procedures and the utilization of goods and services financed under the Project. The auditors will also provide a long-form report including detailed comments on the accounting and financial system and an assessment of the operational efficiency of the Project and its components. The final audit would be submitted to the Bank no less than six months after the end of the fiscal year. In addition, quarterly audits in Côte d'Ivoire and half-yearly audits in Burkina Faso would also be undertaken until such time as the auditors propose and the Bank accepts that they are no longer necessary.

APPENDICES

BURKINA FASO and COTE D'IVOIRE

GEPRENAF

SITE BIODIVERSITY

I. INTRODUCTION.

1. The project area is distibuted over three independant sites: Ouarigué and Monts Tingui in Côte d'Ivoire and Diéfoula in Burkina Faso. The Diéfoula and Ouarigué sites are contiguous and lie across the international border delineated by the Léraba while the Monts Tingui site is located 70 km to the south. All sites are connected to the western side of the Comoé National Park through a 7-km wide corridor for Ouarigué/Diéfoula et a 20 km border for Monts Tingui (see map 1). About 1950 km² within Diefoula/Ouarigué and 1160 km² within Monts Tingui, are free of any cultivation and are potentially available for biodiversity conservation (see maps 2 and 3).

II. DESCRIPTION OF THE BIOLOGY OF THE PROJECT AREA

2. **Vegetation** - The vegetation is typical of the Sudanian domain at Diéfoula/Ouarigué and Sudano-Guinean domain at Monts Tingui. Overall, the three sites are quite homogeneous with woodland savanna, characterized by *Terminalia macroptera* and *Vittaleria paradoxa*, occupying about 70% of the surface. The monotonous woodland savanna is broken by occasional stands of open understory woodland with *Isoberlinia doka* and *Monotones kerstingii*. A grassland savanna prevails on the numerous bowals[1] with *Loudetia simplex* and on the sedimentary plains of the Comoé, Léraba and Kinkéné Rivers with *Vettiveria fulvibarbis*.

3. Gallery forests grow along the Comoé, Léraba and Kinkéné Rivers forming a species-rich dense continuum, sometimes wider than 100 meters, characterized by *Khaya senegalensis* and *Diospyros mespiliformis*. The continuum is broken along the secondary rivers and temporary creeks where the gallery forests become less dense and only occur intermittently. All sites are dotted with archipelagos of dry semi-deciduous forests, characterized by *Celtis spp.* and *Triplochiton scleroxylon*. A significant increase in number, size and species richness of these forest islands is apparent from Diéfoula to Monts Tingui. These primary forests, islands or galleries, constitute the northern spur of the Guinean tropical forest block. This block is now 80% degraded in Côte d'Ivoire. **At all three sites, it is estimated that the survival of more than half of all species depend on the presence of healthy gallery forests and forest islands.**

4. **Fauna** - Associated with the vegetation, the site's fauna is characteristic of the Sudanian to Sudano-Guinean domain. Most West African Sudanian savanna and woodland species are represented. From Diéfoula to Monts Tingui, a gradual but significant increase in forest species, and thereby species richness, occurs. This is well illustrated, at the entomological level, by a shift from widely distributed butterflies at Diéfoula/Ouarigué to species specific to the savanna-forest ecotone and even to dense forest at Monts Tingui, e.g. with *Papilio menesthus*.

5. The avifauna of this varied ecosystem is extremely species rich. In particular the presence of spectacular species such as the secretary bird (*Serpentarius sagittarius*), the ground hornbill (*Bucorvus abyssinicus*), the Jabiru stork (*Ephippiolyncheis senegalensis*) and the giant plantain eater (*Corythaeola*

---

[1] Bowal is a Foulani word that describes a flat, hard lateritic pan, on which little vegetation grows

cristata) is recorded[2]. Several species or sub-species are endemic to the Guinean forest block, e.g. gray-wood pigeon (*Columba unicincta*). The area also shelters numerous Ethiopian (local) and European (palearctic) migrants such as the spurred-winged goose (*Plectropterus gambesis*) and the woodchat shrike (*Lanius senator*).

6. Mammals are well represented by nine species of primates indicator of habitat diversity, e.g. the exclusively dryland patas (*Erythrocebus patass*) and the forest dwelling greater white-nosed monkey (*Cercopithecus nictitans*), and by most of the large ungulates and carnivores representative of the Sudanian savanna ecosystem, e.g. western hartebeest (*Alcelaphus busephalus major*), lion (*Panthera leo*) and spotted hyena (*Crocuta crocuta*). The region is also biologically important because of the richness of its small predator species, e.g. civette (*Viverra civetta*), ratel (*Mellivora capensis)* and several mongoose species. Many species, mostly represented at Monts Tingui, are also characteristic of dense forest ecosystems. This is the case of the western race of black and white colobus[3] (*Colobus polycomos verrosus)*, the rare bongo (*Boocerus euryceros*) and giant forest hog[4] (*Hylochoerus meinertzehageni*).

III. FEATURE SPECIAL TO THIS REGION OR THREATENED GLOBALLY

7. **Habitat diversity** - One important characteristic of all three sites is that, in spite of being 70% covered by savanna woodland, they still regroup a variety of different vegetation types, e.g. wooded savanna, grassland, bowal, gallery forest, semi-deciduous forest island, etc. Habitat diversity, at the local level, is the closest measure of ecosystem diversity. At the selected project sites, diversity stems from the interface and overlap between two biogeographic zones: the arid Sudanian savanna and the moist Guinean forest. The interaction of these two biomes creates special conditions in which very different vegetation types, i.e. habitats, are brought together with hard edges. This in turn induces a close cohabitation between species having widely different ecological niches. Most of these species are at the extreme limit of their natural ranges. For example, Monts Tingui has six duiker species, one of which is savanna dwelling, the Grimm duiker (*Sylvicapra grimmia*), and another exclusive to the densest forest, the black duiker (*Cephalophus niger*).

8. **Species diversity** - The three sites, and in particular Monts Tingui, have a high species diversity. At all sites, species richness is mostly associated with the presence of dense forest patches. Birds, which are considered good indicators of overall biodiversity, underline well the importance of this region for species richness. Long term studies in the adjacent Comoé National Park demonstrate that because of the habitat diversity, 490 bird species (80% of all birds species listed for all Côte d'Ivoire and more species than ever recorded in all of Europe) transit through or live in the Comoé ecosystem.

9. **Endemism** - One of the global measures for the biodiversity value of an area is its level of endemism. Sudanian biomes are constituted of widely distributed species and usually exhibit endemism only at the sub-species level, i.e. at the genetic level. The Western hartebeest (*A. b. major*), waterbuck (*Kobus defassa*), and Buffon kob (*Kobus kob*) are represented as western races. They differ from eastern races not only by morphological characters, but also by their social behavior due to the dense vegetation of the wet savanna of West Africa. At these sites, endemism at the species and subspecies level, is related to the presence of specialized forest species with extremely narrow niches and limited distributions. These

---

[2] The presence of all of these species has been verified by the pre-appraisal mission.

[3] The black and white colobus presence was confirmed along the northern portion of the Diéfoula site along the Comoé River during the pre-appraisal mission.

[4] The bongo and giant forest hog were confirmed at Monts Tingui during the pre-appraisal mission.

species have evolved from the small forest refugia that remained in West Africa in the ice age. Several forest species, endemic to the Guinean forest block and therefore globally rare, are present at Monts Tingui; for example, butterflies, such as *Euphaedra spp.*, endemic to west/center Côte d'Ivoire were recorded during project preparation.

10. **Endangered species** - The conservation of these sites is also important because they shelter several species endangered internationally or locally vulnerable. The Diéfoula sites comprises several pure stands of Guinean coppalier (*Guibourtia coppalifera*) that are not reported elsewhere in Burkina Faso. In addition, relic populations of a regionally important and threatened tree species remain: the *Parinaria sp.* Some animal species are listed as endangered in the IUCN red data book, including the western chimpanzee (*Pan troglodytes verus*), the hunting dog (*Lycaon pictus*) and the most threatened elephant subspecies, the forest elephant (*Loxodonta africana oxyotis*)[5].

11. **Economic value** - Finally, the economic wealth that is associated with biological resources, even though currently undervalued and difficult to quantify, is nevertheless extremely important for the local population. The high value of large savanna ungulates provides these animals with an important role in the conservation of a broader diversity. At all three sites, several species extremely valuable on the safari market, e.g. roan antelope (*Hippotragus equinus*), could potentially generate more revenues than agriculture and thereby induce an alternative land use not consumptive of habitat. A satisfied demand, by these ungulates, for large areas of high habitat quality trickles down to the conservation of non-game species that constitute the bulk of animal diversity. Furthermore, numerous secondary forest products, likely to be present at the project sites, are currently undervalued. This is the case, for example, of the *Datura spp.* plant, which extract is used as a natural food colorant and is currently priced at CFA 300,000 ($600) per kg on the international market. There are over 50 species of medicinal plants recorded in the area.

IV. NATURE OF THE THREATS

12. The threat to the local ecosystem is mostly anthropogenic and originates from non sustainable human uses of a slowly renewable resource. Biodiversity is affected in two ways: (1) the consumption of the biological resource itself, and (2) the consumption of the land sustaining the biological resource.

13. The first way does not always significantly affect biodiversity as it usually consists of direct use of a small proportion of the fauna and flora. Traditional hunting, fuel wood or secondary forest product gathering are example of direct use. However, when the human pressure is locally high, as in part of Diefoula/Ouarigué and Monts Tingui, the direct use can become unsustainable and lead to the degradation of significant parts of the ecosystem. For example, in the Banfora area, near Diéfoula, limited logging by outsiders may lead to the local disappearance of timber species such as *Khaya senegalensis* and *Afzelia africa* that are both rare in Burkina Faso. Species exclusively used in traditional medicine, e.g. *Coclos spermum, Sclerocania spp.*, are also becoming locally endangered. The "Centre de Pharmacopée de Banfora" near Diéfoula must now obtain several plants up to 120 km away, when only recently they were available near the city. Similarly, the large fauna at all sites is threatened in the short term by excessive direct use, i.e. hunting and trapping. Given the current hunting pressure, it is considered that at no time would habitat quantity become a limiting factor for the large ungulates; they would be hunted out much before. Still, since hunting, secondary forest product gathering and logging, only targets specific species,

---

[5] The presence of chimpanzees and elephants at the Monts Tingui site was confirmed by the pre-appraisal mission. Although the hunting dog presence was not verified, many villagers described it as present.

most of the other plants and animals that constitute the bulk of biodiversity may not be significantly affected.

14. Of the non sustainable activities described above, hunting is the most important and impacts significantly the project areas potentially available for biodiversity conservation. The populations of most game species is very low; some such as the waterbuck and the Buffon kob are close to the minimum viability threshold. Even small game species, such as guinea fowl (*Numida meleagris*), are surprisingly uncommon. Therefore, it is expected that without a modification of the hunting habits within a short period estimated at 10 to 15 years, the large game species will all have disappeared from the project areas.

15. Unlike hunting, agricultural encroachment, i.e. shifting cultivation or pastoralism, consumes or modifies the habitat and thereby destabilizes the natural ecosystems, influences the species composition and diminishes the original diversity of life. This is the second type of degradation of natural biodiversity. In all of the three project sites, agricultural pressure, and therefore land consumption, is driven by population growth rate and immigration supplemented by the use of a land-voracious variety of yam. Much of the project's conservation areas were not historically inhabited because of the presence of the blackfly that transmitted onchocerciasis. These areas are now freed of the disease and available for human use. In the medium term, modeled to be 25 years, it is estimated that the cultivation front would have advanced throughout the areas that currently remain in near-pristine condition. Also, but to a lesser extent, it may be expected that transhumant pastoralism from the northern part of Burkina Faso and from Mali could increasingly use the project sites for dry season grazing. Indeed, these areas are now being freed of the tsétsé fly that limited prolonged use of riparian Sudanian habitat by zebu cattle which are not naturally resistant to trypanosomiasis. The main consequence of livestock grazing and browsing of natural range, even when not accompanied by destructive habits such as tree looping, is a modification of habitat quality which leads to a shift in species composition and eventually diminishes natural biodiversity.

V. GENERAL CONDITION OF THE CONSERVATION AREAS

16. **Within the areas potentially available for conservation, a total of 3000 km², or approximately 60% of the project area, the habitat and biodiversity are in general in almost pristine condition.** Human use has not affected the vegetation which appears as healthy as the habitat at the heart of the nearby Comoé National Park. The savanna is usually burned every year, sometimes irrationally late[6], but this has not significantly affected the quality of this fire adapted vegetation. The gallery forests and forest islands are largely intact and function suitably as wildlife corridors and shelters. Currently, the only significant human impact on biodiversity is the diminished populations of game species and in particular large ungulates.

17. Nonetheless, only a few large game species appear to be close to a viability threshold (i.e. the level below which the species cannot recover) and most of them have a potential for rapid recovery given a significant removal of the hunting pressure. Table 1 provides estimates of the population sizes of the main game species, at project start and after 10 year, for each site and under a with and a without project situation.

---

[6] Late season fires (February to April) are more damaging to the vegetation than early fire (November to January) for several reasons: (i) the low moisture content of vegetative material does not offer an effective heat barrier, (ii) the dry vegetative material fuels more intense fires, with higher and sometimes lethal temperature and (iii) the high air temperature and low relative humidity enhances the fires' lethal effect.

VI. ZONING AND MANAGEMENT

18. The larger the area assigned to remain as wildland the greater the potential for (1) biodiversity conservation, (2) large game species recovery and (3) economic return to wildlife utilization. However, there must be a balance between land use types. Given the location of the current agricultural front, it is possible to zone for conservation a total of 3110 km²: 900 km² in Diéfoula, 600 km² in Ouarigué, with an additional 450 km² to connect the Ouarigué/Diéfoula complex with the Comoé National Park, and 1160 km² in Monts Tingui. The exact zoning plan will be determined through negotiations with the communities whose terroirs could be partly included in the Conservation Areas. These areas are not meant to be safe refuges for all species, thus several game species will be utilized according to sound wildlife management practices and national and international regulations. Traditional and safari hunting quotas will be set annually, in function of the previous year populations, while allowing for a proportion of loss to poaching, in such a way as to provide a continuous and sustainable return to the community.

VII. CONCLUSION

19. These sites offer one additional particularity that goes beyond the importance of its habitat diversity, species diversity and the verified presence of endemic and endangered species: it is not only nearly pristine but also certain to be turned over to unsustainable agriculture if an alternative, sustainable and more profitable land use is not established.

Table A1-1 - Modelled Wildlife Population Dynamics With and Without Project

Species	Diéfoula (900 km²)			Ouarigué (1050 km²)			Monts Tingui (1160 km²)		
	Year 0	Year 10 W/out project	Year 10 W/ project	Year 0	Year 10 W/out project	Year 10 W/ project	Year 0	Year 10 W/out project	Year 10 W/ project
Buffalo	52	5	90	57	10	97	66	15	114
Roan	175	11	304	190	27	331	44	7	85
Waterbuck	19	0	22	22	1	63	14	1	30
Hartebeest	698	35	1209	380	40	742	803	142	1347
Buffon Kob	24	0	67	22	0	60	14	0	39
Bushbuck	179	13	302	211	34	359	418	104	636
Duikers	536	3	1118	317	24	1328	1650	432	1771
Oribi	447	2	1104	317	11	1100	1100	80	2162
Warthog	268	0	1836	317	0	2185	550	0	3183

BURKINA FASO AND COTE D'IVOIRE
GEPRENAF
PEOPLE OF THE PROJECT AREAS

Socio-demographic Information

1. The original populations of the **Diéfoula** area belong to the Gur Voltaique group (Gouin, Dogsé and Komono) to the Dioula and Mandé groups (Djongo and Ngiwi). Immigrants belonging mostly to the Mossi, Lobbi and Foula groups have settled over the past ten years; they now represent about 36% of the population. Ten villages are included in the project which represent an overall population of 6000 people with a density of 3.8 inhabitant per km². With immigration, it is believed that population is increasing at a rate greater than 4% per annum; without immigration, the natural rate of population increase is near 2.5% per annum.

2. The Diéfoula site can be divided into two specific zones: Diéfoula to the East of the Comoé River and Logoniégué West of the river (see map 2). The Diéfoula area is much less densely populated than Logoniégué. It is estimated that 2800 people are distributed over 4 villages at a density of 2.4 inhabitant per km². Ten percent of the population is constituted of migrants. Because of high immigration, the Logoniégué area is 60% populated by migrants. Six villages include 3200 peoples with a density of eight inhabitant per km².

3. In Cote d'Ivoire, the **Ouarigué** site includes 17 villages with a total population of 5000 people. The average density is 3.6 inhabitant per km². The Eastern areas of Ouarigué were originally occupied by Ngiwi people of the Manding group. Now they represent only 13% of the population. Most migrants belong to the Lobi group which represent about 29% of the population of East Ouarigué. Other groups include Palakas and Kongs. Western Ouarigué is more densely populated (7 inhabitant per km²). There, Palakas represent 40% of the population, Lobi 29% and Nyaforolos 15%. A minority of Foula is also represented. Demographic increase rates are similar in the Cote d'Ivoire sites as in the Burkina Faso site, i.e. 4% per annum.

4. About 26 villages, with a population of 8700 people, belong to the **Monts Tingui** site. The average density is 4.8 inhabitant per km². The resident populations are Djimini from the Bambara/Senoufo group and Kong from the Dioula group. Most migrants are Lobi and now represent about 40% of the population. They remain mostly in northern Monts Tingui. Again, a similar population increase is estimated in Monts Tingui.

Hierarchic Structure

5. The traditional organization is based on the *terroir* unit (*dughu*[1]). A *terroir* is defined as a portion of space utilized and exploited by a social group which has de facto traditional control on tenure issues. Normally, a *terroir* "belongs" to the first occupant of the land, i.e. the family whose ancestors had build the first houses and cleared the first field. Today, the descendents are represented by the **village chief** (*dughu tigi*), master of the village itself and of its people, and the **land chief** (*dughu kolo tigi*). The land chief inherits the agrarian "forces" and is expected to manage the land, i.e. to distribute it to the resident of the

[1] Dughu in Dioula, Manding, Sénoufo and Bambara designates the terroir.

villages and to the new migrants. Once received from the land chief, a piece of land can remain in the lineage of a family as long at it remains cultivated. Planting trees or digging wells requires authorization from the land chief.

6. Traditional village institutions are generally well organized, though there is considerable variation between sites and villages. In Cote d'Ivoire, almost all villages have **Village Councils**. This is a recognized authority which, reinforced by the project, will constitute the basic project unit at the village level. In Burkina Faso, the importance of village council is yet to be legally established, however, in almost all villages numerous other associations *(ton)* exist. They range from women's associations to youth's associations, and include thematic associations with various objectives (charity, collective fields, construction and management of infrastructure and hunting). In Burkina Faso, village hunters associations are found in virtually every village where there is a land chief, and have been encouraged by the government. In the Cote d'Ivoire only some villages have hunter's associations. Traditional village structures will generally provide a viable base for project activities, although a considerable amount of capacity building and institutional support will be needed. In the Cote d'Ivoire sites, some villages have organized a network of *"vigilante"* groups to undertake night patrols against local bandits: clearly an interesting base for community anti-poaching activities.

7. In some of the newly settled villages, the political power and recognition lies outside of the village. For example, the Lobis installed in Gorowi and Amaradougou at the Monts Tingui site have allegiance to a "king" located in the city of Kong. The villages in the southern portion of Monts Tingui (Djimini villages in map 3), recognize the "canton chief" of Dabakhala as supreme authority. Several emigrated villagers from the project areas have reached a national political stance. In turn, they became influencial in their village of origin. For example, in the village of Yrenderikoro a villager who emigrated to Abidjan was for a short period deputy in the national assembly. This has given him a special authority in the village which now will not accept any project or venture without consulting him.

8. Little **inter-village structure** exist yet. The *Pays Rural* and the *Communauté Rurale* (both are sets of villages) are the basic administrative units respectively in Cote d'Ivoire and Burkina Faso. However, they often do not represent homogeneous social units and do not function well. Therefore, the project will have to induce the notion of inter-village association in order to manage wild areas overlapping several *terroirs*. The creation, training and formalization of these inter-village associations into an efficient entity is expected to be carried out over the project life.

Production System

9. Agriculture is the principal activity for all sites' populations. It is a slash and burn type of rainfed agriculture where fields are farmed for three to six years and then remain in fallow for five to 12 years. Agricultural production currently occupies less than 16% of the total area, but is rapidly expanding into the classified forests. This system is traditionally oriented toward auto-consumption but is increasingly shifting toward commercialization. Three production systems can be identified: subsistence agriculture, commercial agriculture and agro-pastoral production.

10. **Subsistence agriculture** is a traditional system based on the cultivation of millet, sorghum, maize and rice. It is supplemented by a limited production of ground nuts and yam. A large proportion of the production is consumed locally. However, a significant proportion is sold or shared in a local charity network. Hunting, secondary forest product gathering and fishing also contribute to food diversification and food security. Family manual labor is the basic production unit. At the Burkina Faso site, this system

is adopted by 30% of units in the Diéfoula area and 40% in the Logoniégué area. At the Cote d'Ivoire sites, it concerns 30% of the Ouarigué units and 55% of the Monts Tingui units.

11. **Commercial agriculture** is not mutually exclusive with the subsistence system. It is mostly carried out by young farmers. While the family remains the basic production unit, it is supplemented by additional manual laborers, mostly migrants. Two commercial sub-systems can be identified: one is dominated by yam and the other by cotton.

12. Yam cultivation leads to relatively high earnings. However, this labor demanding system requires the use of paid labor, and rapidly exhausts the soil. The recently introduced high yield "American Florida" variety, depletes soil nutrients in one to two seasons. Consequently, this subsystem is highly demanding in new land and contributes to the accelerated movement of the agriculture front into wildlands. If the current rate of clearing continues, all the remaining land in the three classified forests will be cultivated or under fallow by the year 2020. At the Burkina Faso site, this system is adopted by 20% of family units in the Diéfoula area and 60% in the Logoniégué area. At the Cote d'Ivoire sites, it involves 40% of the Ouarigué and Monts Tingui units.

13. The cotton production subsystem is demonstrative of a new agro-economic behavior: intensification, organization into cooperatives and use of paid labor and of mechanized equipment. This system is still developping and involves only 50% of the cultivators in the Eastern part of the Diéfoula area of the Burkina Faso site, and 40% of the farmers in the Eastern part of Ouarigué.

14. **Agro-pastoral systems** is the domain of the Foula herders. Migrant herds, mostly Zebu cattle, originate from northern Burkina Faso and move through the Diéfoula/Ouarigué area during the dry season. These animals are owned by Foula families living in North Burkina Faso, and increasingly, by Foula who have settled in the area. In addition, sedentary livestock, mostly trypano-tolerant Ndama cattle, owned by the resident population are herded around fallow areas by paid Foula herders. The impact of livestock on the wild habitat and on wildlife would be substential if livestock continues to increase. The herders combine the use of bush fires with systematic lopping of trees to provide forage to their animals. In addition, livestock can compete with wildlife for food and for water thereby lowering the carrying capacity for some wild ungulate populations.

15. In all areas, the population depends to a significant extent on **natural resources** such as wild meat and gathering. Food preparation almost always includes vegetal fat and spices from wild plants. Wild meat often constitute the sole protein intake of the villagers.

16. Three types of hunting are practiced in the area: traditional subsistence hunting, organized commercial hunting and recreational hunting. Hunting takes place in the classified forests as well as in the village agro-pastoral zones. Traditional subsistence hunting has considerable socio-cultural significance, but contributes only about 3% of total monetary revenue to villages. It has minimal impact on animal populations. The most serious threat to wildlife is from organized poaching, by both residents and large groups of Lobi hunters from Burkina Faso, who hunt and dry bush meat for commercial sale. If this type of hunting continues unchecked virtually all the large and medium sized mammals will have disappeared from the area within twelve years. Some recreational hunting takes place in Burkina Faso and Cote d'Ivoire by expatriates and civil servants. Its impact on wildlife populations is negligible, but it generates considerable local income for guides, trackers and porters. Some villages even encourage game animals specifically for these outsiders. Although usually illegal, this provides an important demonstration of potential interest in the strategy of the proposed project.

17. Beside hunting, natural resources are used in traditional food preparation, construction, pharmacopoeia. Timber species such as *Khaya senegalensis, Pterocarpus errinaceus* and *Afzelia africana* are marginally exploited in the Logoniégué Classified Forest. More than 50 plant species are used in traditional pharmacopoeia. Honey production is relatively developed in the area, though it remains an opportunity activity destructive of the trees in which wild hives are found. Table 2.1 presents the revenues from the different production systems.

Table A2-1 - Composition of net monetary incomes in project area

Site	Diéfoula	Ouarigué	Monts Tingui
Number of Village	10	17	26
Population (inh.)	6,000	5,000	8,700
Density (inh/km²)	3.8	3.6	4.8
Agriculture (%)	76	70	83
Pastoralism (%)	3	3	3
Gathering (%)	22	15	12
Hunting (%)	0.6	12	0.1
Total ($/pers.-year)	28	32	22
Total Zone ($/year)	170,490	168,360	190,680

Infrastructure

18. Physical and social infrastructure and Government services in the area are limited and investment in basic infrastructure, especially water supplies and roads, is the highest development priority for most villages

19. For the 10 villages of the **Diéfoula** sites, there are three schools with a total of eight classrooms, 18 water points and five primary health centers. The Logoniégué area, even though more populated, does not have any school and has less developed infrastructure. The access roads are all in extremely poor shape and are perceived as an impediment to agriculture export.

20. In the 17 **Ouarigué** villages there are two schools with a total of nine classrooms, one primary health center, 10 equipped wells and two hand-dug wells. In **Monts Tingui**, there are six schools and one primary health center. About half of the villages are equipped with a drilled well and a manual pump. Access roads to these sites are not as degraded as in the Diéfoula site. However, roads within the sites are in great need of rehabilitation.

Factors of Pressure on Resources

21. At all three project sites, the current production system will fail in the long-term. It is estimated that without a change in current trend, the entire project area will be cultivated within 20 years. The current trend is characterized by a high population growth exacerbated by high immigration and supplemented by a land-extensive agriculture and by an uncontrolled demand on bush meat. Details on the threat that humans pose to renewable resources of the area are presented in Appendix 1.

Conclusion

22. Investigation of the current production system as well as social studies conducted during project preparation have shown how unsustainable the current production system is and how it will lead to economic difficulties and to biodiversity depletion. These studies have also shown that numerous villagers, particularly the young cultivators, are aware of this problem. They understand that if the elders continue to distribute land to all newcomers, soon there will be no meat on the table and no land to cultivate. Many of them are receptive to the ideas that GEPRENAF proposes. Admitedly, understanding of GEPRENAF is not yet widespread, nonetheless a project that aims at solving the problems of this community will, without doubt, be well received. A financial analysis has shown that, if immigration can be controlled, then wildlife management and utilization by the villagers will rapidly become more profitable that agriculture. There is an opportunity to enable the people, perceived today as the "problem", to become the real solution.

BURKINA FASO AND COTE D'IVOIRE

GEPRENAF

COMMUNITY-BASED LAND MANAGEMENT: THE *"GESTION DES TERROIRS"* APPROACH

INTRODUCTION

1. This Annex provides an overview of the community-based land management (CBLM, or *gestion des terroirs)* approach that forms the basic strategy for the planning and implementation of GEPRENAF.

2. The CBLM strategy has evolved during the past ten years from a generation of mainly productionist or integrated rural development projects. An evaluation of the results of these traditional projects showed that despite high investment costs the projects generally had limited impact and were unsustainable as the strategies were not adopted by the population. This led West African countries, donors and non-government organisations towards the definition and progressive implementation of a new multi-sectoral and decentralised strategy which incorporates the concerns of natural resource management, spatial planning, improved production and household incomes and the development of socio economic infrastructure. Unlike the previous generation of projects, this new community-based land management (CBLM) strategy directly provided organised rural communities with the responsibility, skills and tools to manage sustainably the land and natural resources they use on a daily basis.

3. To date, CBLM has been used to increase the productivity and sustainability of crop and livestock production and to improve land management techniques. The aim of the GEPRENAF, however, is to promote wildlife management (both plant and animal) as an alternative land use which is both economically and ecologically viable. This will be a new concept for the majority of the communities in the project area, and will therefore be an idea that is initially "external" to the main CBLM process. In effect, through increasing awareness and subsequently through demonstrating tangible benefits, the project will add a new land use option.The approach taken by GEPRENAF can consequently be considered as one of "guided" CBLM.

OBJECTIVES

4. The objectives of the CBLM are:

- to provide communities with the operational capacity to initiate and implement activities designed to improve production, their quality of life and the natural environment through better information, training and coordinated technical and financial support,
- to provide communities with the authority and administrative and legal power , through decentralisation, to manage the resources of their land.

5. **The Approach** - The CBLM approach is participatory, open, flexible and iterative. It is based on the community's knowledge of their land and its resources, their needs and priorities and the possible solutions to their problems. There are several key elements of the approach that depend to a large extent on a supporting national policy, institutional and legal framework.

(i) Participation, which includes having the legal right to assume authority and responsibility for land and resource management, is crucial to the CBLM approach. Without the participation of the local

communities, and the range of local resource users, the approach will not be internalised and therefore have little chance of long-term success. Participation should start as early as possible in the project cycle and begin if possible with a process of participatory diagnostic evaluation by the population of their resources and future needs. Acceptance of this strategy requires a change in the way that outside agents and agencies work with local communities: the capacity to listen to the people becomes a prerequisite to effective operations.

(ii) Coordination between the different groups (government services, NGOs, private sector operators) working in development in an area is important as CBLM requires a wide range of skills and supporting activities. Local coordinating committees have an important role in ensuring that inter-agency and inter-sector coordination is achieved. The process needs to be clear and transparent, with the roles and responsibilities of all involved precisely defined. The diagnostic process enables the various sectoral programs working in an area to target their assistance to where the real needs and priorities are expressed. However, like participation, this requires the adoption of a new way of working with the communities.

(iii) Security of tenure, both land and natural resources, is a precondition to the long-term success of natural resource management operations. Throughout much of rural West Africa there is currently considerable overlap between local, traditional land tenure arrangements and elements of modern, national legislation. This problem can often be resolved on a case-by-case basis without resorting to extensive litigation. The CBLM approach, by bringing together different resource users to discuss specific natural resource use conflicts, can help clarify the interests of the range of different resource users and provide a coherent framework for discussion and dispute resolution.

(iv) Decentralisation entails the transfer of central government authority to local community groups so that they have the legal status to control the management and exploitation of their own property and their own internal decision making processes. At the same time a process of deconcentration of necessary government power is necessary, whereby essential government responsibilities, such as the provision of agricultural and social services, are transferred from central state structures to those closer to the population.

(v) Local capacity building is essential if rural communities are effectively to assume control and authority over their resources. The speed of the progressive, iterative CBLM approach is controlled primarily by the capacity of the communities to learn and expand their management and implementation skills. Consequently the development of human resources and a program of special training and field visits is an essential part of any CBLM operation. Experience shows that successfully implementing specific actions which are of priority concerns to the population is the most effective way of reinforcing participation and encouraging local capacity. The program of work subsequently expands to include other activities as interest, skill and capacity grow.

(vi) Special group interests are targeted in CBLM through the initial participative diagnostic process of rapid rural appraisal. The particular concerns of women, youth, transhumants, migrants and other significant recourse users are included in the over-all analysis of resource users interests and needs. This is essential if a true and balanced view of the *"terroir"* and its related population is to be achieved. It is only through this process that the full range of concerns, and potential and existing conflicts, can be discussed and solutions eventually be negotiated.

(vii) Supporting Investments in social infrastructure are an essential element of CBLM activities, even though the main focus of the programs will be on improving natural resource management. Social infrastructure (wells, clinics, schools etc.) is inevitably a primary concern of the population and will thus

regularly emerge as a high priority in the participative diagnostic process. The CBLM strategy must therefore take these demands into account, even if direct funding might not automatically be included in the CBLM project package. This will be of particular importance in the GEPRENAF sites, where the standards of services and social infrastructure are particularly poor and a subject of great concern to the population.

(viii) Flexibility is an essential characteristic of the CBLM approach. It is important that communities and project staff can learn and react to changes in capacity, local conditions and opportunity. It is therefore important to monitor progress very carefully and reevaluate plans according to evolving conditions.

6. **Key Steps in Implementation** - There are eight steps which normally would be followed in the implementation of a CBLM strategy. The importance of, and time required for, each step will be determined by site-specific characteristics.

(i) Preparing a supportive framework. This includes an initial phase of raising communities awareness about the approach of the CBLM strategy, ensuring that there is strong, visible national and provincial support for the project strategy and establishing an effective national policy and legal framework. This also requires that the project's key institution have the mandate and manpower needed to execute their tasks.

(ii) Participative diagnostic survey. This is carried out by specially trained professionals using a rapid rural appraisal methodology. It is a powerful participative planning tool that is based on traditional local concepts. The communities (including all resource users within the *terroir,* which is a socially recognised area of land and resources) describe and map the resources of the *terroir* and identify their primary problems. The interests of each specific sub-groups within the community (women, migrants, youth etc.) are identified during the diagnostic process.

(iii) Identification of goals, skills and available resources. During this step the community analyses priority goals associated with the quality of life (income security, health, education, water supplies, rural access etc..) and production and economic goals (agriculture, hunting, animal husbandry, use of primary and secondary forest products, employment etc.). At the same time the available skills and resources to achieve these goals are identified and compared with an analysis of the skills and resources that would be required to achieve them. In this manner the actual resource gap (human, technical, financial and physical) can be described.

(iv) The preparation of a community *"terroir"* development plan. Initially this will be a very simple document - not even written to start with; a locally made *terroir* map and a verbal agreement is generally sufficient - that identifies a limited number of priority actions that can be implemented within a specific time frame (usually 6 or 12 months). Training needs as well as direct investment in physical infrastructure should be included, as well as the human, physical and financial requirements that are needed to implement the plan. As local skills and capacity increase so will the plan's complexity and detail. In the specific case of GEPRENAF it is extremely unlikely that some of the essential initial habitat improvement and wildlife management activities would be included as immediate priorities in the communities' plans. It will therefore be necessary for the GEPRENAF team to propose these activities - which would be paid for by the project - as an additional set of activities for the area, and to negotiate the details of implementation with the communities. This should include resource utilisation as well as habitat improvement operations. As the local population gains experience - and begins to receive tangible benefits from project activities - it is expected that habitat and wildlife management operations would be included in the *terroir* development plans.

(v) Review of the plan. Before starting implementation the community should review the proposed plan, with the project team against a set of evaluation criteria. These should include: an evaluation of the environmental impact of the activities; a clear identification of "who will do what, and with what"; an analysis of the weak links in the plan and the actions needed to reinforce those links; an estimate of the marginal benefits to the population; a review of the role and interests of special groups (women, youth, migrants, transhumants etc.); and a review of the plans social and cultural impact.

(vi) The negotiation of a development agreement between the community and the project. Initially this will be done on a village-by-village basis, but as the project develops the agreements would be with the inter-village associations. The agreement will be based on the plan developed by the community and the proposals for the biodiversity and wildlife management zone. It would define the roles and responsibilities for all parties concerned, with a timetable for action and a financing plan. The communities' contribution would mainly be in the form of labor and allocating land to biodiversity conservation, while the project's contribution would be training, technical advice and finance, though as the communities start to earn cash income from wildlife exploitation they would be expected to contribute to the costs of the project.

(vii) Implementation. The majority of the work, both for the biodiversity component and the *terroirs* development plans would be undertaken by the communities themselves. Where necessary, however, large civil works (permanent roads, project buildings), safari operations and coomplex technical work (aspects of ecological monitoring) would be contracted out to private sector operators.

(viii) Monitoring, Evaluation and Adjustment. The iterative character of the CBLM approach requires regular analysis of what has been achieved and an assessment and updating of current plans where necessary. This is particularly important in view of the limited number of predetermined project goals. Once a year the process of participative planning will be repeated and the *terroir* development plans and associated agreements updated.

7. **Conclusion** - The CBLM approach is participative and flexible. It moves a great deal of the authority and responsibility for detailed project planning and execution to the local communities and the support units financed by the project. There is no blue-print for success in this type of activity and results will depend on the skill, determination and energy of the project staff and the capacity of the local communities to respond to their efforts. Experience has shown that suitably motivated and capable personnel are available in the region who, with appropriate training and technical support can effectively undertake the task.

Attachement

A NOTE ON INDICATIVE COSTS FOR LAND MANAGEMENT AND SOCIAL INFRASTRUCTURE INVESTMENTS.

Introduction - The participative, decentralised planning process of Community-based Land Management (CBLM, or *gestion des terroirs*) means that it is not possible to pre-plan the detailed investments to be undertaken in each village. The decisions on what activities relating to land improvement and infrastructural investments would be made by each village association, following a procedure of participative diagnosis of problems, potentials, resources and needs. The types of investments will depend on the characteristics and particular circumstances of each village. The costs and implementation details of each activity will also depend on the site. However, some approximate costs of possible activities in land management and infrastructure investment are presented below.

A. LAND MANAGEMENT

Type of Investment	Unit	Approx Unit cost FCFA '000
Stone bunds in gully	**ha**	**80**
Contour stone lines	**km**	**1,300**
Grass contour lines	**ha**	**50**
Agro-forestry plantation	**ha**	**200**
Natural Forest Rehab.	**ha**	**100**
Windbreaks	**km**	**150**
Hedge	**km**	**100**
Tree Nursery	**Nursery**	**1,500**
Apiculture Unit	**Unit**	**2,000**
Composte Pits	**Pit**	**15**
Small Scale Irrigation	**ha**	**400**
Animal Traction	**Unit**	**210**
Livestock Park	**Park**	**25**
Animal Fodder Production	**ha**	**17**
Cattle fattening Unit (2 animals)	**Unit**	**120**
Sheep fattening Unit (5 animals)	**Unit**	**60**

B. SOCIAL INFRASCTRUCTURE

Type of Investment	Unit	Approx Unit cost FCFA '000
Well	**Unit**	**1,000**
Borehole	**Unit**	**4,000**
Earth Dams	**Unit**	**10,000**
Dispensary	**Unit**	**20,000**
Primary School	**Unit**	**26,000**
Seasonal Road	**km**	**20**
Permanent Road	**km**	**10,00**

BURKINA FASO and COTE D'IVOIRE

GEPRENAF

SOCIAL ANALYSIS

INTRODUCTION

1. This Annex outlines the key social factors that have been considered in the design of the project, and which need to be considered during the implementation. The approach used in the Annex follows the Social Guidelines for Biodiversity Projects[1] proposed by ENVSP in 1994.

CURRENT SOCIAL CONTEXT

2. The **local stakeholders or affected population** at all three sites are the traditional residents and migrants, both being resident in the project area. The traditional residents are the accepted "owners" of the rights to the land, though in recent years they have lost their influence for political reasons. The majority of the migrants are Lobi, originating in southwest Burkina Faso. They started to migrate about ten years ago, mainly attracted by the opportunities for employment as laborers for commercial yam cultivation. There are also some Mossi and Fulbe immigrants, and a few pastoralists, also Fulbe, cross the region with their cattle. The transhumants remain only between January and April in the project areas.

3. **Potential conflicts** will arise as the traditional residents increasingly try to contain migration. Although not yet widespread, there is conflict between long-term residents and Lobi migrants, the latter being accused of causing environmental problems ranging from soil degradation to poaching. The project's *gestion des terroirs* strategy will provide a frame work for tackling this problem and for resolving disputes. In the medium term it will also provide a methodology for analyzing the present and future capacity of each area to receive new migrants.

4. There are three main factors in the **current social context which affect biodiversity:**

(i) Migration: even if the current population density is low (about 5 people/km^2), the number of new migrant families is increasing every year in all three project areas,

(ii) Agricultural Cropping Patterns: commercial production of high yielding yam varieties requires new land every one to two years followed by 10 to 15 years fallow. This leads to a very rapid expansion of the agricultural front and to extensive soil depletion.

(iii) Illegal Hunting: all ethnic groups in the area hunt. This is the greatest threat to the remaining large animal populations in the area. There is considerable demand for bushmeat, particularly in the Côte d'Ivoire, where local hunters supply not only the neighboring towns of Ferkesedougou and Dabakala, but also markets as far away as Abidjan.

5. **Other human activities** that may in the future threat to biodiversity include logging, fuel wood gathering, fishing, livestock production and uncontrolled burning. While these activities have not impacted the project areas'

---

[1] " *Incorporating Social Assesment and Participation into Biodiversity Conservation Projects" ENVSP, March 30th, 1994.*

biodiversity, it is still important that project implementation ensures that they are controlled and subject to rational management plans.

6. **Traditional Wildlife Management Systems** are disappearing because it is in the short term interest of both residents and migrants to bypass the traditional rules and exploit wildlife for quick commercial profit. This practice is only worsened by the competition that now exists between resident and migrants for the few remaining animals. Nevertheless, the Village Hunters Associations in Côte d'Ivoire are well organized and represent the interests of the traditional resident hunters. In Burkina Faso the traditional associations had mostly disappeared. The current association of hunters, whose creation has been encouraged by the forestry department, may not be representative of the traditional hunter associations. In both countries the Associations exclude the Lobi migrants, who are often active hunters. Consequently they have little capacity to control wildlife utilization by the migrants through social pressures.

7. The lack of effective implementation of **national policies on decentralization** is an important socio-political factor in both countries. In the Côte d'Ivoire, the government is preparing a legal framework for decentralization. In Burkina Faso the law already exists *(Loi de Réorganisation de l'Administration Territoriale du 6 juin 1993)* and the next steps are being reviewed by a National Decentralization Commission. However, it is implemented at the local level only through *gestion des terroirs* projects. The absence of formal decentralization structures has in the past prevented local populations from securing legal tenure rights over natural resources and land. The project, because it takes a *gestion de terroir* approach, will help clarify the situation in all three project sites.

SOCIAL IMPACT OF THE PROJECT

8. The project can be expected to have several positive results:

(i) Decision making. The establishment of the Village Associations, and subsequently the AGEREFs, will enable, for the first time, all the traditional and migrant residents, to participate in the formulation of development strategies toward which the project will contribute funding;

(ii) Capacity building. The project's support for political decentralization is new for each project site. A considerable amount of training in technical and management skills and institutional development will be given to the members of the project teams, and to both individual Village Associations and the inter-village Associations (AGEREF). This will enable local communities to assume effective long-term responsibility for the management of their resources.

(iii) Collective development perspectives. At the village level, the financial benefits generated by the project, within two years of project start, will provide an important incentive for the development of a community-based natural resource development system.

(iv) Changing livelihood strategies. The current agricultural production systems in the three project sites are not sustainable; Without the project's intervention, revenues from both farming (particularly yam production) and commercial hunting will decline over the long term. The project changes this perspective and will establish sustainable resource management systems. There will be some initial short term declines in revenue due to the adoption of a new land-use and production strategy, but this should be compensated for by investments in socio-economic infrastructure and, subsequently, revenues from wildlife utilization.

(v) Gender. At the moment little is known about the bushmeat marketing systems, though it is clear that women, usually the hunters' wives, smoke bushmeat and sell it to the local markets. It is also women who manage the local restaurants that serve the meat (*"les maquis"*). These women currently benefit considerably from commercial, often illegal, hunting, and some provide hunters with ammunition. Clearly these women will lose income during the first years of the project.

(vi) Employment. It is estimated that the project will generate local employment in multiple aspects. First, the wildlife and habitat management and monitoring activities will employ villagers in fire management, anti poaching, wildlife inventory, and general day-to-day management of the area. Second, numerous infrastructures will be built or rehabilitated and then maintained annually using High Intensity of Labor technique; such infrastructure range from wildlife area boundary, local tracks, road improvement, small dam construction, and building of project housing and offices. Finally, safari hunting will require the employment of a small number of guides, cooks, porter, etc.

MITIGATION ACTIONS

9. The project has been designed and planned in a number of ways to minimize or avoid potentially negative impacts for the areas' population. Table 1 describes in detail the potential negative social impacts of the project, the project-specific context of these impacts, the intrinsic project design factors that mitigate the potential negative impacts. Necessary mitigation actions are also described. In general. the project was designed in such a way as to maximize benefit to the population and minimize negative social impacts:

(i) Resettlement. No resettlement or voluntary relocation of houses will be required by the project. The wildlife management zones will be so sited as to avoid the need for resettlement and will assure minimum disturbance to and by human activity.

(ii) Social Integration. The project will provide special training to assist the integration of all resident groups, traditional residents and migrants into project planning and execution. The *gestion de terroir* Strategy will also help in this respect. Once individual Village Associations are able to work effectively and effectively present and defend their interests, they will be helped to form larger inter-village groups, the AGEREFs, that will provide the base for an associative management of the natural resources of the area.

(iii) Minority and Less Powerful Groups' Interests are provided with special attention through the *gestion des terroirs* strategy and the process of community-based needs analysis (see Appendix 2). These concerns will be included in the planning of project activities and will be also be factored into the monitoring process.

(iv) Bushmeat marketing studies - that will accompany the opening of hunting in the Côte d'Ivoire will greatly increase understanding of the complex marketing system of hunting and bushmeat. They would also indicate the social and political influences that are important to the market at the local, regional and national level.

Table A4-1 - Potential Negative Social Impact of the Project and Mitigation Measures

Action With Potential Negative Social Impact	Potential Negative Social Impact	Project Specific Context	Project Design	Mitigation Actions
Enpowerment of village associations and capacity development	1. Conflicts between traditional residents and migrants (Lobi)	1. Migrants are currently excluded from village or hunters associations	1. The Gestion de Terroirs approach brings together all the residents and resource users	1. Project supervision will verify that all groups get included in the GT negotiations
	2. Conflicts between traditional residents	2. No inter-village association currently exist	2. same as above	2. same as above
	3. Conflicts between migrants (e.g. Lobi, Mossi and Fulbe)	3. Different ethnic groups have to compete for ressources and land	3. same as above	3. same as above
	4. Incapacity of VA to manage Wildlife Management Area and budget and collapse of project (or) TSU takes ownership in the project	4. The local associations are extremely weak and disorganized	4. Capacity building is a strong project component. Also, each TSU member will have a villagers counterpart	4. Project supervision will closely monitor the transfer of knowledge and power from the TSU to the AGEREF
		4' The current local management capacity is extremely low		4'. Same as 2
		4''. The potential gains from wildlife management are not clear to the population	4''. The TSU will ensure that revenue earning activities start as soon as possible to demonstrate the potential value of wildlife	4''. Not necessary
		4'''. The villagers interest in wildlife management is not clear at present	4'''. Through awareness raising activies, the project will attempt to raise the villagers interest. In addition, it is understandable that not all villagers will want to participate in wildlife management activities	4'''. Not necessary

Table A4-1 - Potential Negative Social Impact of the Project and Mitigation Measures

Action With Potential Negative Social Impact	Potential Negative Social Impact	Project Specific Context	Project Design	Mitigation Actions
Allocation of village land to wildlife management continuation)	3. Resettlement	3. There is enough wildland for both agriculture and wildlife management if new migrants do not settle and sustainable production systems are employed	3. The villagers will be able to secure their traditional land as land security will be improved 3' No resettlement of people and no relocation of fields will take place	3. Not necessary
Limitation on hunting	1. Loss of revenues for resident hunters and meat sellers during the first years of the project (After their revenues will increase as wildlife populations recover and offtake rates increase).	1. It is expected that within 10 to 15 years all large mammals will be driven to extinction if hunting is not limited. When this occurs, the hunting revenues will be lost for all stake holders 1'. Gender issue: women smoke bushmeat and manage local bushmeat restaurants	1. Through GT and compensatory actions (e.g. employment and infrastructures), the project will attempt to convince local hunters to diminish their activity to 20% of its current level. 1'. A study of the bushmeat marketing system will indicate how women will be affected by hunting restrictions and how the project should compensate them for their losses	1. Not necessary.
	2. Loss of revenues for non-resident poachers	2. Same as 1. It is expected that poaching revenues will decrease in early years, but as wildlife populations recover, and because poaching cannot be fully controlled, the poachers' revenues will increase in the long term	2. The project will control non-resident poaching	2. Not necessary

Table A4-1 - Potential Negative Social Impact of the Project and Mitigation Measures (cont'd)

Action With Potential Negative Social Impact	Potential Negative Social Impact	Project Specific Context	Project Design	Mitigation Actions
Allocation of village land to wildlife management	1. Limited expansion of agriculture into classified forest and subsequent loss of short term revenues to the farmers, in particular since they are planting a land voracious variety of yam.	1. Agriculture is the first priority of the people . The villages want improvement in agriculture before wildlife management	1. Using a GT approach, the project will provide compensatory revenues to the villagers through social infrastructure, employment and intensification of agriculture 1'. If villagers can be convinced to stop accepting new settlers, they will conserve the potential of their terroir for both cultivation and wildlife management	1. Project supervision will monitor both the villagers revenues and the project perception in order to design and take mitigation measures if necessary
	2. Restriction of migration	2. These areas have been freed of onchocercaisis and can be cultivated without danger to people's health 2' The governments' strategies implies guided settlement with a land use plan for the "freed areas", outside the project sites, that are currently available 2'. Without the project, the new migrants would settle illegally within classified forests	2. As above	2. As above

Table A4-1 - Potential Negative Social Impact of the Project and Mitigation Measures (cont'd)

Action With Potential Negative Social Impact	Potential Negative Social Impact	Project Specific Context	Project Design	Mitigation Actions
Enpowerment of village associations and capacity development (continuation)	5. Capture of benefit by private, village or regional elite	5. This is a definite risk	5. One of the main role of Project supervision is to ensure that all stake holders interests are equally considered and defended.	5. The revenue flow will be monitored by the IAG and by the Bank
	6. Diversion of the hunting revenue flow from hunters or women to other individuals	6. This is a definite risks	6. The VA advised by the TSU will organize a revenue distribution mechanisms, based on current practices	6. Same as 3.
Transfer of rights from the government to the villagers upon land, wildlife and forest resources	1. Inadequate transfer of responsibility and rights resulting in misuse or overuse of the resource or continuation of current unsustainable activities	1. Villagers already perceive land and natural resources as theirs. Nevertheless, the intended results will be better achieved if the governments accelerate the implementation of their decentralization policies	1. The local VA and AGEREF structure will give the local opportunity to compensate for the lack of implementation of decentralization policies in both countries	1. Through other projects, the Bank is supporting decentralization in both countries

BURKINA FASO and COTE D'IVOIRE
GEPRENAF
ENVIRONMENTAL ANALYSIS

INTRODUCTION

1. The project objective is environmental in essence: it is to contribute to the conservation of areas in one of West Africa's most diverse and threatened ecosystem: the Comoé (see maps at the end of the document). It builds upon a new approach to conservation that promotes the rehabilitation and sustainable utilization of wild plants and animals simultaneously for the benefit of local communities and for the conservation of biodiversity. The land allocated for wildlife management is free of human settlement and cultivation, and no resettlement of either human or production system will be undertaken. In the long term, the project should result in the effective and durable protection of 3000 km² of pristine species-rich wildand in a regionally important ecosystem. Without the project, it is estimated that within 12 years all large mammals will have gone extinct and within 25 years the entire are will have been turned over to unsustainable agriculture. The project will have a number of additional positive environmental impacts: (i) it will contribute to the conservation of existing biodiversity in an area currently threatened by rapidly expanding human activity, (ii) it will restore the large animal communities,(iii) it will develop and demonstrate an alternative land use that is sustainable, profitable and environmentally benign that could consequently become a model for other national park buffer zones and areas recently liberated from onchocercaisis, (iv) it will test a computer model prepared during preparation that simulates the project activities and compares them to a without project situation over a 25 year period, and finally, (v) it might also have a marginal positive impact on global warming and watershed protection.

2. Alternative strategies that in theory also aim at sustainable and profitable conservation, have been tested using a model prepared during Project preparation. These alternatives include: (i) private game ranching, (ii) protected area development, (iii) Government managed hunting zones. Game ranching, because of high recurrent costs was modeled not to be profitable for its operators and would provide no or very little revenue to the community. Park development would have to rely on non-consumptive use of the areas, such as ecotourism, for cash earnings. It was estimated that the tourism potential of these areas was not sufficient by itself to compensate the community for not converting the land to agricultural use. Finally, not only would a Government managed hunting zone possess all the disadvantages of a centrally managed project, but also would prevent the diversification of activities necessary to achieve a profitable equilibrium.

POSITIVE ENVIRONMENTAL IMPACTS OF THE PROJECT

3. **Conservation of biodiversity** - The project will protect about 3000 km² of a near pristine mosaic of Sudanian savanna and Guinean forest habitat [1]. If measures are not taken, cultivation will have consumed all the site's land within 25 years. This would have a disastrous effect on the local biodiversity. Furthermore, since these areas are adjacent to the Comoé National Park, they

[1] See Annex 1 on biodiversity for a presentation of the sites, their current condition and their global importance for biodiversity conservation

will act as buffer and contribute to biodiversity conservation in the park by diminishing people's pressure on the park boundaries.

4. **Rehabilitation of the large fauna population** - Approximately 60% of the project area is still pristine and most non-game species remain in a healthy state. On the other hand, due to uncontrolled hunting most of the large mammal species are in a potentially precarious state; all large mammal species would become locally extinct within 12 years. The project will enable these populations to become reestablished. For example, the expected impact of the project on two important species (*Alcelaphus buselaphus major* and *Hippotragus equinus*) is illustrated in Figure 1 which shows their probable fate without project and a conservative path for their recovery with project.

5. **Research and Development** - The pilot nature of this project and the lessons that can be drawn from its implementation will be extremely important. If successful, GEPRENAF would have several far reaching consequences and influence the design of many conservation and land use projects in the future. Firstly, the pioneering of community-based wildlife utilization in West Africa would provide a useful strategy to conserve other areas and would prove that wildlife conservation can be a profitable alternative land use in certain parts of West Africa. Second, the project would provide a suitable model for buffer zone management[2]. Third, the project through its monitoring and evaluation system will provide lessons on wildlife management and in particular on the impact of biological buffers and corridors on national park wildlife populations. Fourth, the results will be particularly important as operational strategies for sustainable economic development and natural resource management are being actively sought for the areas recently freed from river blindness.

6. **Protection of the Comoé upper watershed** - Soil losses from extensive agricultural activities can be significant in this area particularly. Continued cultivation of the banks of the Comoé, Léraba and Kinkéné Rivers could lead to significant soil erosion and siltation of the river and increased turbidity. This in turn could impact negatively many downstream activities associated with the Comoé system. The project, which will prevent further human settlement on the river banks in the project area, will therefore contribute to the Comoé River protection.

7. **Contribution to reducing global warming** - By preserving significant stands of healthy forest and woodland, the project contributes a global benefit in the form of carbon storage. Without the project, the depletion of substantial forest cover would decrease the carbon storage ability of the area thereby diminishing its contribution to global warming mitigation, even though very limited on the global scale.

POTENTIAL NEGATIVE ENVIRONMENTAL IMPACT OF THE PROJECT

8. Even though the project should improve the global environmental quality, it is possible that without proper attention some project activities might have negative impact on the environment. These actions, their possible impact, project design factors incorporated to limit the damage, and proposed mitigation actions are listed in the attached table.

---

[2]Wells and Brandon, in Peoples and Parks (World Bank/WWF/USAID, 1992), analysed existing buffer areas worldwide and concluded that none could be considered as functionning adequatly.

MITIGATION ACTIONS

9. The description and implementation details of the different mitigation actions, listed in the righthand column of the table, are integrated within each of the project components. Therefore, this mitigation "plan" does not require a specific budget to be implemented. A budget line, which includes the financial means to mobilize the necessary material and man power, already exists within each project component. The implementation of each mitigation action will be the responsibility of the Technical Support Unit.

10. Neither all possible environmental impacts nor the magnitude of the considered impacts can be fully estimated. Consequently, the TSU will carry out a basic Environmental Assessment of all new investments before their implementation. Furthermore, a monitoring system will be put in place which, as well as monitoring project performance, will enable the project participants to detect any unforeseen negative environmental impact. Measures would be taken to appropriate funds to prevent or mitigate these effects. The supervision of this component will be a responsibility of IUCN and the National Coordinator.

11. It is estimated that 2% of the Technical Support Unit (through design and monitoring) and 10% of the IUCN input (through review of project design) would be spent on Environmental Assessment of project activities.

Table A5-1 - Potential Negative Environmental Impact of Project and Mitigation Measures

Actions with Potential Negative Environmental Impact	Potential negative impact of project	Project Specific Context	Project Design	Mitigation Actions
Permanent access roads to villages	1. Facilitate immigration	1. Immigration is not driven by road availability but by land availability. Also, through "Gestion de Terroir" the project aims at controlling and guiding local immigration.	1. Not necessary	1. Not necessary
	2. Improve access of poachers	2. Poachers are using already existing hiking or bicycle trails and not vehicle trails.	2. Not necessary	2. Not necessary
	3. Improve access to wild meat traders	3. Wild meat trading is already taking place using mostly light transports, e.g. bicycles and mopeds. Also, most villages are already accessed by the trucks who purchase the crops. Nonetheless, since one of the objective of the project is wildlife utilization, an improvement of controlled market access by the traditional hunters is viewed positively.	3. Not necessary	3. A monitoring system will be set up at the village level to manage and control hunting and sales of meat.
	4. Soil erosion.	4. The access road will consist of a small layer of laterite over existing roads that are often already eroded		4. Surface water evacuation ditches will be built to evacuate water toward existing culverts
	5. Unexpected impacts			5. The TSU will review all the design proposed by contractors before a contract is awarded, and IUCN and National Coordinators will monitor the road construction and use for unexpected impacts.

Table A5-1 - Potential Negative Environmental Impact of Project and Mitigation Measures (Continuation 1)

Actions with Potential Negative Environmental Impact	Potential negative impact of project	Project Specific Context	Project Design	Mitigation Actions
Temporary roads	1. Favor poaching or agricultural penetration,	1. Same as permanent roads. These roads are primary built for surveillance activities.	1. The project will finance anti-poaching activities that are non existent now.	1. Not necessary
	2. Disturbance of sensitive habitat		2. Temporary roads will be established at least one km away from rivers, island forests, or any other identified ecologically sensitive location	2. Not necessary
	3. Soil erosion		3. Temporary roads will be created by clearing the vegetation and repeated driving. Not surface disturbance is expected as the roads will be re invaded by vegetation each rainy season	3. Not necessary
	4. Unexpected impacts			4. IUCN and National Coordinators will monitor the road construction, and use for unexpected impacts

Table A5-1 - Potential Negative Environmental Impact of Project and Mitigation Measures (Continuation 2)

Actions with Potential Negative Environmental Impact	Potential negative impact of project	Project Specific Context	Project Design	Mitigation Actions
Improvement of bottom lands for rice cultivation	1. Severance of gallery forest and thereby of wildlife corridor and shelter		1. Bottom land improvement will be considered only if requested by the population during the GT process. If requested they will not be implemented in the Wildlife Management Areas but in the agro-sylvo-pastoral areas	1. The TSU will undertake a Environmental impact assessment of each proposition and determine any necessary mitigation action
	2. Attraction of additional migrants to take advantage of the cultivation potential		2. Through "Gestion de Terroir" the project aims at controlling and guiding local immigration	2. Not necessary
Allocating land for wildlife management	1. Resettlement of villages or fields	1. The wild areas are sufficiently large not to require any resettlement	1. The wildlife management areas will be allocated through a process of discussion with the villagers themselves	1. During the GT process, villagers will be continuously informed that no resettlement is considered and necessary
	2. Unexpected impacts			2. IUCN and National Coordinators will monitor all land management activities for environmental impacts and design mitigation plans when necessary

Table A5-1 - Potential Negative Environmental Impact of Project and Mitigation Measures (Continuation 3)

Actions with Potential Negative Environmental Impact	Potential negative impact of project	Project Specific Context	Project Design	Mitigation Actions
Presence of safari hunting and tourist camps in wildlife management areas	1. Disturbance of wildlife activities	1. Safari hunting camps are often built at the heart of wildlife management areas. Their impact on biodiversity, if well designed, can be minimal and actively deter poaching (in Nazinga the elephants have regrouped themselves around the camp where poachers do not dare to go)	1. Camps will be built at least 2 km from any ecologically sensitive site.	1. The camp location will be reviewed by the wildlife specialist of the TSU and representative of the VA for agreement.
		1'. Currently several poaching camps are installed within the wildlife management areas and have far more impact on the environment than future well designed safari and tourist camps	1'. Anti-poaching activities will chase the poachers out of the wildlife management area	
	2. Pollution, trash, etc.			2. A set of regulations on camp design and operation will be prepared by the TSU in order to manage human waste and establish a code of conduct while in the camps
	3. Unexpected impacts			3. IUCN and National Coordinators will review all land management activities for environmental impacts and when necessary design and require implementation of mitigation plans

Table A5-1 - Potential Negative Environmental Impact of Project and Mitigation Measures (Continuation 4)

Actions with Potential Negative Environmental Impact	Potential negative impact of project	Project Specific Context	Project Design	Mitigation Actions
Hunting	1. Excessive hunting leading to species extinction	1. It is expected that the project will reduce and not increase the amount of hunting in the area. Proportionally to their populations, less animals will be killed.	1. Quotas will be established according to sound wildlife management practices and the species hunted will respect the choices of national and international regulations.	1. The project monitoring system will determine whether any changes in quotas are necessary.
	2. Disturbance of fauna	2. The current poaching pressure is extremely high and ignores sensitive areas. Future hunting will avoid ecologically sensitive areas.		2. Hunting areas will be selected by the TSU and VA in order to keep hunting away from sensitive areas
Habitat management	1. Modify the original species composition	1. Since large herbivores are keys to economic sustainability, it is necessary to manage their habitat and maximize their populations.		1. Monitoring will determine how much habitat management is necessary to maintain viable populations of all savanna species.
		1'. Savanna habitats have evolved under anthropomorphic pressures such as bush fires.		
		1'' The bulk of biodiversity is concentrated in the forested areas (galleries and islands)	1''. Only savanna habitat will be managed by the creation of a bush fire, saline improvement and water point increase program	1''. Habitat management will be implemented at least 2 km from the ecologically sensitive sites

Table A5-1 - Potential Negative Environmental Impact of Project and Mitigation Measures (Continuation 5)

Actions with Potential Negative Environmental Impact	Potential negative impact of project	Project Specific Context	Project Design	Mitigation Actions
Wildlife utilization.	1. Creation of an uncontrolled market for wildlife products.	1. Markets for wild meat are already well established in Burkina Faso and Cote d'Ivoire (where an estimated 64000 tons of wild meat is estimated to be consumed).		1. Careful monitoring and regulating of hunting.
	2. Enabling trade of endangered or rare animal species.	2. Burkina Faso has already signed and ratified CITES and regulates animal trade. Cote d'Ivoire is about to ratify CITES and plans to list a number of rare and endangered species in Annex 1, i.e. total ban on hunting and trade, of its hunting code.	2. One of the condition for project implementation is that Cote d'Ivoire ratifies CITES	2. Not necessary
	3. Unexpected impacts.			3. Results from the ecological and socio-economic monitoring will be analyzed by IUCN and National Coordinators to determine whether wildlife utilization activities have negative impacts and, when necessary, implement mitigation measures

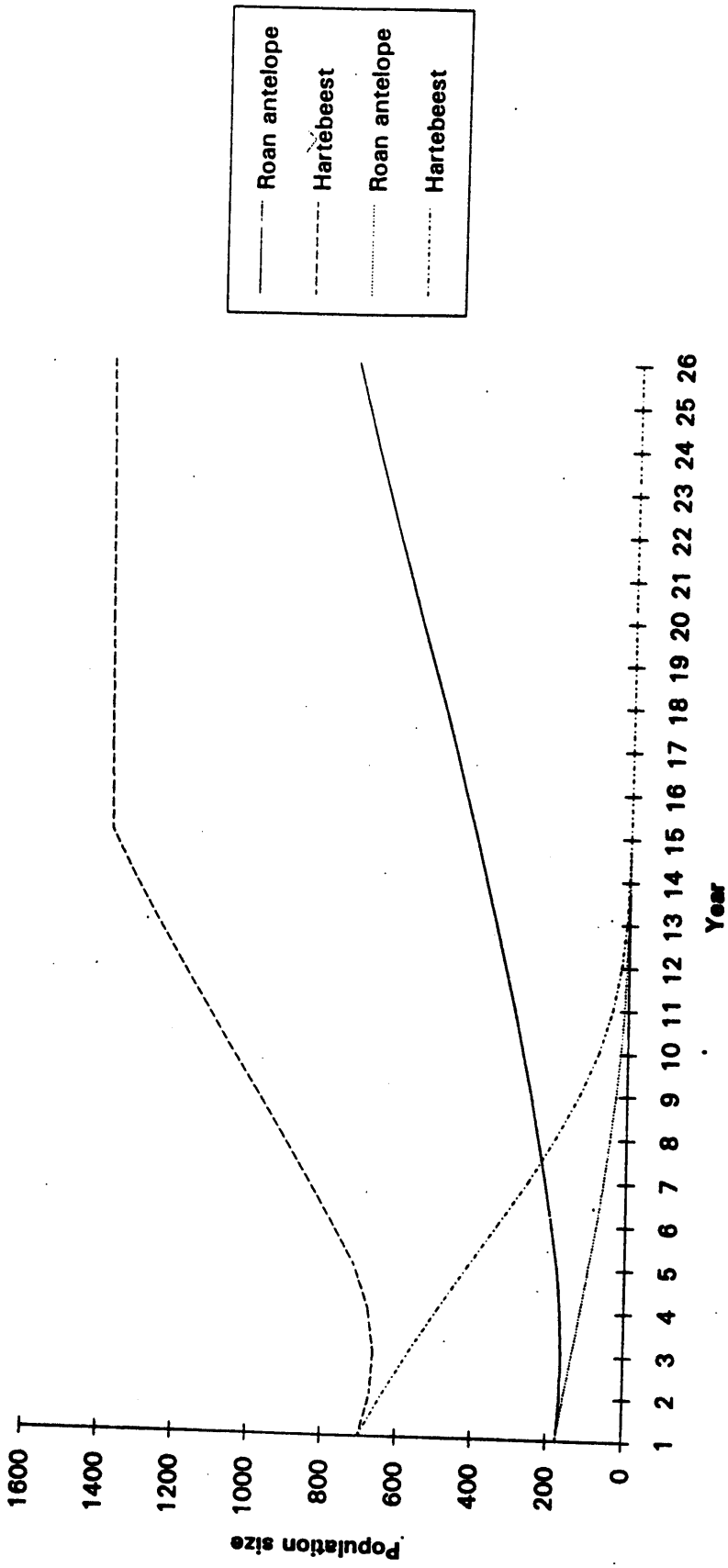


Fig. 1 - Evolution of the Populations of Selected Species With and Without Project

BURKINA FASO and COTE D'IVOIRE

GEPRENAF

MONITORING AND EVALUATION

INTRODUCTION

1. GEPRENAF is an innovative pilot project. The project will test and develop a strategy of community-based biodiversity conservation and the explore the possibility of using sustainable wild resources utilization as an incentive for improved habitat management. Many important implementation details will be determined by the participants during implementation, rather than at the pre-implementation planning stage. Detailed and suitably adapted monitoring program will therefore be essential if the progress of the project is to be effectively followed. Monitoring will also be an important tool for adaptive management, ensuring that both problems and potentials are identified as early as possible and appropriate action can be taken.

2. Section 1 of this Appendix describes the main components of the monitoring program, identifies the main indicators for each component and outlines the evaluation process. Further operational detail is provided on the important Ecological Monitoring (Section 2) and Socio-economic Monitoring components (Section 3).

3. Reliable quantitative and qualitative indicators will be necessary to monitor the evolution and impact of the project. This will concentrate on four main aspects; (i) institutions and local capacity, (ii) socio-economics, (iii) ecology, and (iv) project management and implementation. Wherever possible local, village-level techniques will be used to ensure the maximum participation of the local communities and sustainability of the system. However, more sophisticated techniques will be required in certain areas to supplement these data.

4. The aim of the monitoring program is to established a field-based system to track the physical, conceptual and technical progress of the project, and to evaluate its impact on both the environment and the lives of the communities in the project area. Particular emphasis will be placed on establishing quantifiable parameters that can be easily collected on a regular schedule. The monitoring process will be structured to ensure direct feed back to the project staff and "target population" for each of the four main implementation components of the project (Local Capacity Building, Habitat and Wildlife Management; Natural Resource Utilization and Processing; Land Management and Infrastructure Development.)

5. The monitoring program identifies who needs which type of information for what sort of decisions. In doing so, it enables the program to focus on the collection of data required for operational use and to reduce the collection of non-essential information. The main questions to be asked for each of the four monitoring topics are: **Why** is the information being collected ? **Who** needs it ? **How** will it be collected? **Who** will collect it ?, and **What** will be done with the results ?

INSTITUTIONS AND LOCAL CAPACITY MONITORING

6. WHY ? To follow progress in local capacity building and local participation in project planning and implementation. To determine when key steps in institutional development can be made and to identify unplanned needs for additional institutional support.

WHO needs it ? Primary Users - TSU, IUCN, AGEREF and Villagers; Secondary Users- National Coordinators and Donors.
HOW will it be collected ? Detailed records on training and local participation in project activities. Regular evaluation of capacity of villages to undertake key planning, implementation and monitoring tasks.
WHO will collect it ? Mainly the TSU, with support from Village Associations and villagers
WHAT to do with the results ? The results will provide feedback on the impact and efficiency of the project's training programs and provide project staff with indicators of when key steps in institutional progress of the project - creation of the formal AGEREF, replacement of TSU members by local personnel - can be taken.

ECOLOGICAL MONITORING

7. WHY ? To assess whether the project is achieving its goals in increasing wildlife populations, protecting biodiversity, stabilizing land use and improving agricultural production systems. To evaluate the ecological impact of habitat management techniques, wild resource utilization activities, land management operations and socio-economic investments..
WHO needs it? Primary Users - TSU, AGEREF and villagers: Secondary Users - National Coordinators and Donors
HOW will it be collected ? Village-level ground surveys, and professional ecological monitoring techniques using low-level aerial surveys, systematic ground transects and satellite image analysis.
WHO will collect it ? The TSU, IUCN, AGEREF, Villagers, the two national Universities and specialized contractors.
WHAT will be done with the results ? The results will provide essential feed-back on the effectiveness of management techniques to achieve project goals at each site. They will also provide early warning of any possiblc negative environmental impacts. The need to improve or modify both management strategy and technical methods would be identified as part of the management Strategy.

SOCIO-ECONOMIC MONITORING

8. WHY ? To determine impact of project activities on the lives of the population of the project area, to determine whether expected benefits are being realized and to obtain information on local perceptions of project progress and applicability to local concerns. Specifically, to follow the flow of project benefits to all sections of the community and determine whether project benefits are offsetting short-term losses due to project. To ensure that all groups are adequately represented in project decision making. To identify any unexpected negative impact.
WHO needs it ? Primary Users-TSU, IUCN, AGEREFs and Villagers; Secondary Users- National Coordinators and Donors.
HOW will it be collected ? Mainly village-level surveys undertaken by the TSUs and villagers.
WHO will collect it ? The mobile teams of the TSU and Villagers.
WHAT to do with the results ? The results will show whether expected benefits - both in cash and in improvements in quality of life - are reaching the target population and indicate whether these benefits are sufficient to offset foregone revenue. This will enable project management to determine changes in strategy necessary to ensure future participation of the population.

PROJECT IMPLEMENTATION

9. WHY ? To follow use of financial and human resources in project implementation and to provide essential background information on the viability of planning targets, implementation costs, and use of man-power.
WHO needs it ? Primary Users - TSU, IUCN and AGEREF; Secondary Users - National Coordinators and local coordinating committees, and Donors.
HOW will it be collected ? Detailed annual planning, financial accounting, physical inventories, systematic record keeping of implementation (staff and labor requirements, quantities etc.)
WHO will collect it ? The TSU, AGEREF,auditors.
WHAT to do with the results ? A regular comparison of project targets and achievements will provide a practical yardstick for improving the precision and viability of project planning process and identifying implementation constraints and bottlenecks.

MONITORING ACTIVITIES AND TECHNIQUES

10. The Institution and Capacity Building component is best described by input and output indicators that are measurable using the project day-to-day Management System, e.g. number of training days, creation of Village Association, etc.. The same observation can be made of Project Management and Implementation. However, ecological and socio-economic project objectives have specific, tangible output. This requires a proactive data collection and analysis system that, even though coordinated by the regular Management System, is not intrinsically part of it. It is necessary to enhance the list of indicators provided by a description of the proactive monitoring systems. Therefore, APPENDIX 6 is supplemented by two Sections to present the framework of ecological and socio-economical monitoring (see SECTIONS 2 and 3).

MONITORING INDICATORS:

11. The following tables summarizes the indicators that could be used in the monitoring process. Selected bench mark indicators, against which project evaluation is to be carried out, are identified ahead of the other indicators for each component. A final decision on indicators would be made by the project team and advisors during the Project Launch Workshop.

I. INSTITUTIONS AND CAPACITY BUILDING

Bench Mark Indicators:

(i) Improved community perception of project
(ii) Standard of village level management
(iii) Creation of an informal AGEREF
(iv) Creation of the AGEREF

ACTIVITY AND TARGET GROUP	INDICATORS
1. Institution Building	
-Reinforcement of Village Level Professional Groups	*No. of Groups reinforced *Standard of groups' operations
-Reinforcement of Village Associations	*Creations of Village Associations *Standard of operation of Village Associations *Readiness to establish Inter-Village Committees
-Establishment of an informal AGEREF	*Creation of informal AGEREF *Standard of Operation of informal AGEREF *Readiness to create AGEREF
-Establishment of AGEREF	*Creation of AGEREF *Standard of operation of AGEREF *Readiness of AGEREF to assume control of operations *Capacity of AGEREF to finance project operations
2. Public Awareness and Orientation	
-Village Level) -Local Officials) -National Level)	*No. of days of activity *No. of people contacted *No. and type of topics discussed *Change in understanding
3. Training	
A. Village Associations	
-Organization and participation	*No. of days training *No. of people trained *No. and type of new skills acquired *Standard of village level management
-Planning and implementation	*No. of days training *No. of people trained *No. of village-level *gestion des terroirs (GT)* plans prepared *No. and type of GT activities implemented
-Financial management and accounting	*No. of days training *No. of people trained *No. of subjects offered *Standard of operation of account *Results of quarterly and annual audit *Level of village contribution to investments and operations *Effectiveness of management of benefit stream *Equity and impact of benefit distribution system
-Marketing forest products	*No. of days training *No. of people trained *No. new products developed *Impact on quantity, quality and price of products

-Biodiversity zone management	*No. of days training *No. of people trained *No. of subjects presented *No. and type of activities implemented *Quality and impact of activities
-Anti-poaching activities	*No. of days training *No. of people trained *No. of subjects presented *No. and type of new skills acquired *Frequency and impact of use of new skills *No. of poachers caught *Change in large mammal populations
-Traditional and safari hunting	*No. of days training *No. of people trained *No. of subjects presented *No. of new skills acquired *Changes in organization of traditional hunting *Changes in results (numbers species, age, sex) of hunting *Quantity and type of employment generated by hunting *Quantity and type and distribution of economic benefits
-Monitoring and evaluation	*No. of days training *No. of people trained *No. of subjects presented *No. and type of new skills acquired *No. and type of M&E tasks undertaken *Use of results in planning and implementation
B. Technical Support Unit (TSU)	
-Organization and management of village groups	*No of days training *No. TSU staff trained *No. of subjects presented *Changes in organization and management of VAs and AGEREF
-Rapid Rural Appraisal (for Mobile Teams)	*No. of days training *No. of staff trained *No. of village *gestion des terroirs* plans prepared
C. AGEREF	
-Planning and management	*No. of days training *No. AGEREF members trained *No. of subjects presented *No. of new skills required *Quality and quantity of inter-village plans *Quality and quantity of plan implementation
-Procurement and Contracts	*No. of days training *No. of AGEREF members trained *No. of subjects presented *No. of new skills acquired *Changes in capacity to negotiate and supervise contracts
-Financial management and accounting	*No. of days training *No. of AGEREF members trained *No. of subjects presented *Flow of funds *Results of quarterly and annual audits

-Biodiversity Management	*No. of days training *No. of AGEREF members trained *No. of subjects presented *No. and type of new skills acquired *No. and type of activities implemented *Quality and impact of implementation
-Anti-poaching	*No. of days training *No. of people trained *No. of subjects presented *No. and type of new skills acquired *Frequency and impact of use of new skills *No. of poachers caught *Change in large mammal populations
-Traditional and Safari Hunting, and Ecotourism	*No. of days training *No. of people trained *No. of subjects presented *No. and type of new skills acquired *Changes in inter-village organization of hunting *Capacity to manage and control safari hunting *Incentive created by hunting to encourage conservation
-Monitoring and evaluation	*No. of days training *No. of AGEREF members trained *No. of subjects presented *No. and type of new skills acquired *No. and type of M&E tasks undertaken *Use of results in project planning and implementation
-Government Staff	*No. of days training *No. of staff trained *No. and type of subjects presented *No. and type of new skills presented *Use and impact of new skills on project

II. SOCIO-ECONOMIC FACTORS

Bench Mark Indicators:

(i) increase of average family income and income distribution (overall and from natural resources utilization),
(ii) freeze of the agriculture front,
(iii) freeze of the immigration rate.

FACTOR	INDICATORS
-Income and employment	*Changes in family income due to project *Family and village-level investments in project activities *No. of man-days of paid labor per family and village from project *No. of man-days of labor voluntarily contributed
-Consumption and marketing	*Changes in consumption patterns *Changes in exploitation patterns of primary and secondary forest products *Changes in techniques in harvesting and processing forest products *Changes in knowledge of, and access to, markets for agricultural and forest products
-Production strategies	*Adoption of improved land management and agricultural production techniques *Changes in land use at family, village and site levels *Changes in migration patterns *Changes in local perceptions of potential use and value of natural resources
-Interests of marginalised groups	*Changes in opportunity for groups concerns to be expressed (Women, youth, migrants etc..) *Impact of *gestion des terroirs* plans on group *Access of groups to project resources and benefits

III ECOLOGICAL FACTORS

Bench Mark Indicators (see Section 2, para.2):

(i) increase in population index of of key species (game species, indicator species, keystone species)
(ii) improvement of a set of biodiversity indicators,
(iii) improvement of the proportion and quality of key habitat,
(iv) increase in wild biomass production (animal and vegetal).

ACTIVITY	INDICATORS
1. Village Level Ecological Monitoring	
-Foot transects	*No. of trained observers *No. and type of transects undertaken *No. of man-days worked *No. of parameters collected *Use of results for calculating: ~Habitat change ~Wildlife population change ~Offtake rates *Degree of corroboration with other survey results
-Informal data collection	*No. trained observers *No. and type of observations *Use and impact of informal data collection
-Resource utilization surveys	*No. trained staff *No. and type of surveys *Use of data in planning and controlling offtake
2. Professional Technical Monitoring	
-Remote sensing	*Production of 1:50,000 landuse and vegetation maps *Changes in landuse, bush fires and vegetation *Use and impact of data for planning and implementation
-Aerial surveys	*Number, duration and area of surveys *Changes in density, distribution and state of animal and plant populations *Use of data for planning and implementation *Corroboration with other survey data
-Road strip census	*Number and distance of census *Changes in density, distribution and state of animal and plant populations *Use and impact of data on planning and implementation *Degree of corroboration with other surveys
-Ground truthing	*No. of man-days worked *No. and size of sites established *Use and impact of data on planning and implementation

IV PROJECT MANAGEMENT AND IMPLEMENTATION

Bench Mark Indicators:

(i) installation of an efficient project management and supervision system,
(ii) implementation rate (%) of planned infrastructures,
(iii) result of financial audits.

ACTIVITY	INDICATOR
-Accounts, audit and financial management	*Results of quarterly and annual audits *Disbursement rates *Procurement rates *Project expenditure by component
-Habitat and wildlife management	*Delimitation of village *terroir* and wildlife management zone *No. of dams constructed *No. of waterholes constructed *No. of mineral licks installed *Kms of all-weather roads repaired *Kms of seasonal tracks constructed *Area of controlled bushfire management *Area of uncontrolled bushfire *No. anti-poaching patrols undertaken *No. poachers caught, weapons confiscated *No. and type of guided hunting safaris *No. and type of eco-tourist visits
-Land management and infrastructure development [1]	*Preparation of village *gestion des terroirs* plans *Implementation of village *gestion des terroirs* plans *Maintenance of project investments by villagers.

EVALUATION

12. It is estimated that four independent evaluations of the project impact will be necessary over the 5 year project life. These evaluations will take part during standard supervision and will rely on data collected through the permanent monitoring program and supplemented, if necessary, and at the request of the TSU and IUCN, by specific surveys.

13. The first evaluation will be organized at the **end of year 1**. The objective will be to determine (i) the impact of the GT approach on villagers activities and (ii) the success of the GT approach at convincing villagers to allocate the required land to wildlife management. **The benchmark indicators describing Institution and Capacity Building as well as Project Managementand and Implementation** will be evaluated. In addition other indicators related to (i) zoning of village *terroir*, (ii) participation of villagers in project induced activities (including all representative groups), and (iii) capacity/readiness of villagers to formalize the inter-village communication and relationship necessary for the creation of the informal AGEREF.

14. The second evaluation will be organized **at the Mid-Term Review**. The objectives will be to analyze the impact of the project **using all benchmark indicators**. This evaluation will attempt

[1] *Detailed physical targets can not be prepared for this component as specific investments will be decided by the local communities during project implementation. Indicators will therefore need to be established during the detailed, village-level planning phase.*

to link each project output, through its benchmark indicators, to the project input that triggered it. The goal is to enable the selection of an appropriate course of action for the second half of the project.

15. A third evaluation will be organized **one year before the end** of the project. This evaluation will be similar to the mid-term evaluation, but it **will specifically assess the likelihood of project sustainability** and either, maintain the project on its current track, recommend minor changes, or recommend a follow up phase of the project to the Government and other interested parties.

16. The **final evaluation** at project completion will again review all benchmark indicators, but it will focus on analyzing the lesson learned, i.e. reasons of failures and successes and recommendation for future operations, and identifying suitable follow-up actions.

BURKINA FASO and COTE D'IVOIRE

GEPRENAF

ECOLOGICAL MONITORING

INTRODUCTION

1. The monitoring of biodiversity will take place at two levels: at the local-level carried out by the community, at the project-level carried out by scientific specialists. There are two main reasons for this. First, because of the pilot character of the project and its unique approach to conservation, biodiversity must be monitored very closely with appropriate and modern techniques. Such close monitoring will be executed throughout the project life. Second, a cheap and simple, but efficient, community-based monitoring system is crucial to assure continuation after the end of the project. A summary of the methods is presented in Table A6-1.

2. Monitoring of several different types of ecological indicators will be carried out. First, game-species need special attention because, they are the most immediately threatened and because it is through them that the economical sustainability of the project is reached. Therefore, the population sizes, group/herd composition, age and gender structures, distribution and offtake will be monitored very carefully. Second, several species are good indicators of habitat quality. By their very presence or absence, they indicate whether a certain set of conditions, required for their survival, and thus for the survival of species living in similar habitat, are met. For example, chimpanzees are considered good indicators of low human disturbance, spiders indicate an array of micro-climatic conditions and birds of prey indicate the presence of abundant prey species. Species that also require special monitoring are keystone species; which enable the existence of other species. For example, aardvark dens are necessary to shelter numerous ground-dwelling animals such as porcupines. Finally, the dynamics and resilience of the habitat itself needs to be monitored quantitatively and qualitatively. Quantity, refers to the surface area of habitat available for conservation, e.g. free of agriculture encroachment, and quality refers to the availability of resource required by certain species for survival within the habitat, e.g. nutritious grass for grazing species.

SCIENTIFIC MONITORING

3. Scientific monitoring will be directed and organized by professional ecologists contracted by the TSU. They will use the methodology already established for the monitoring system set up for the adjacent Comoé National Park (CNP)[1]. Homogeneity in method is extremely important to compare the evolution of animal populations and habitat in a baseline environment (the CNP) and in a dynamic, managed environment (the GEPRENAF sites).

4. **Monitoring of animals** - In the past, animal populations have been monitored in the CNP with aerial surveys accompanied by road strip censuses. The same methods will be used in the GEPRENAF sites. Both methods provide estimates of animal densities, group sizes and distribution. Road strip censuses are necessary to corroborate aerial surveys and to provide densities of small species, such as duikers, not visible from the air. Furthermore, road strip censuses are extremely important to collect detailled data on gender ratio and age classes. They also provide useful information on nocturnal species. Both methods need to be

[1] ROTH & MÜHLENBERG & BARTHLOTT 1979; MÜHLENBERG 1981, 1993; STEINHAUER-BURKART 1984, 1986

supplemented by foot surveys and random point sampling to corroborate results and to observe indicator or keystone species[2] not visible by either of the two other methods.

5. **Vegetation monitoring** - Changes in vegetation cover will be monitored yearly using satellite images SPOT[3] supplemented by ground truthing activities. This will provide information on the temporal and spatial changes in land use, i.e. the position of the agricultural front and of new villages, and on the evolution of the vegetation cover within the conservation area, i.e. stages of succession, sizes of forest islands, effectiveness of the bushfire management program, etc. The ground truthing of satellite images will be accompanied by site specific sampling activities. Composite 360° photographs would be taken from fixed locations at different seasons during the project life. This would monitor the succession of individual plants and sensitive sites, and assess their sensitivity to known events, e.g. repeated fire, storm, elephants etc. Grazing pressure, at different points of each area, would be monitored by point sampling of grass cover and species composition.

COMMUNITY-BASED MONITORING

6. The monitoring program executed by the villagers will focus on the revenue-earning resources, particularly game-species and easily identifiable indicator species. Data on these species will be gathered using foot transects, informal collection and offtake check points.

7. **Foot transect** - Community teams, supervised and trained by consultants in charge of scientific monitoring, will carry out 80 annual foot transects[4] and associated analysis at each site. Analysis of the data collected will generate information on population size, group composition, gender and age ratio and distribution for each game species and for selected indicator species. The results of the foot survey will be compared to the results of the aerial surveys over five years to establish whether a compensation factor is needed and, if necessary, its value. The hunting quotas will be established from the villages-based results (verified initialy by the TSU member in charge of the ecological monitoring).

8. **Informal data collection** - Informal continuous monitoring will be performed by the anti-poaching patrols. The guards and the village auxiliaries will be trained to collect information on several easily identifiable species. This information will be collated by the TSU for analysis by the scientific monitoring consultants.

9. **Animal utilization** - In addition to the live animal monitoring program, exploitation of game species will be monitored. This would be through a village-based checking system in which hunters provide voluntarily the head and hooves of the animal taken, for gender and age identification, as well as information on the location of the kill for species distribution analysis. The animal parts, e.g. trophy, will be returned to hunters if they request it. This information will also be collated for analysis by the TSU member in charge of ecological monitoring.

---

[2] A list of indicator and keystone species to monitor will be established in the first project year

[3] See Appendix 4. du Manuel d'Execution

[4] Foot transect, which is one among many posible foot surveys, consists of walking straight lines through a studied area to collect observation data to determine species' population densities

Table A6-1 - Summary of Ecological Monitoring Methods

Objective	Type of Survey	Implemented by	Methodology	Frequency	Advantages	Disadvantages
Animal population size, herd structure and distribution	1. Aerial census	Scientific consultants	Strip Transect	Biannual	Rapid and reliable	Expensive, restricted to large savanna species and does not provide information on age and sex structure. Requires non-village inputs
	2. Road strip census	Scientific consultants	Strip transect	Biannual	Rapid and easy	Restricted to savanna species and distribution information biased by the road layout. Rquires non-village inputs
	3. Foot transect (census)	TSU ecological assistant with villagers	Line transect	Annual	Cheap, can be performed by a community team. Provides reliable results	Long and requiring hard work to obtain sufficient data for reliable statistical analysis
	4. Informal data collection	Guards and auxiliaries	None	Continual	Cheap, provides large quantity of data that can provide useful, but informal information	Inaccurate, no statistical analysis possible
Dynamics of habit (vegetation cover, grazi pressure, effect of fi management, of creation o water points and salt lic cultivation front)	1. Foot survey and random and systematic sampling	Scientific consultants	Array of field methods for sampling populations, species, and habitat (e.g. chimpanzee nest survey, mountain top birds of prey recording, frog night call recording, 360° composite photograph, sampling of grass for grazing pressure, etc.)	Continual	Provides reliable information	Expensive (because it requires the continuous time of specialists). Requires non-village inputs.
	2. Analysis of satellite images	Scientific consultants	Visual interpretation of images and digitization into a GIS	Annual		Requires non-village inputs.

Table A6-1 - Summary of Ecological Monitoring Methods (cont.)

Objective	Type of Survey	Implemented by	Methodology	Frequency	Advantages	Disadvantages
Animal offtake	1. Safari hunting reports	Safari guide	Annual report	Continual (during hunting season)		
	2. Voluntary check-point station for traditional hunting	Local team	Monthly and annual reports	Continual	Cheap and easy	Subject to the hunter volunteering information

BURKINA FASO and COTE D'IVOIRE

GEPRENAF

SOCIO-ECONOMIC MONITORING

INTRODUCTION

1. Even though GEPRENAF is a biodiversity conservation project, its success will partly be measured through the improvement of specific and local socio-economic indicators. Viewed from a social angle, GEPRENAF aims to develop a new integrated land-use system that is more sustainable and more profitable for the local communities than the current slash and burn agriculture. The Project also aims to improve the quality of life for all groups through investment in socio-economic infrastructure. The improvements are necessary if the communities are to participate effectively in achieving the projected biodiversity conservation goals. In order to verify that the well-being of the whole community increases in a fair and equitable manner, the set of indicators presented in Section 1 of Appendix 6, will be monitored.

OBJECTIVES AND INDICATORS

2. It is expected that the well-being of the community will improve because of enhanced family income. This would come firstly from the local intensification of agriculture, decrease in immigration and pastoralism, and improvement of market access. Secondly, a great number of villagers will receive the benefit of project related employment such as wildlife management, anti-poaching and infrastructure construction. Finally, it is expected that revenues from hunting and natural resources utilization will increase over those from agriculture.

3. Continuous monitoring of these indicators is necessary. First, it will ensure that the project is maintained on track and allow corrective actions to modify the project strategy. Second, because of the pilot nature of GEPRENAF, it is crucial to ensure that any improvement or degradation can be linked to its cause. This will enable better replication of the community utilization concept in other locations.

METHOD

4. The practical objective of this component is to compare data on the evolution of project indicators with the initial project target indicators[1]. This is necessary to determine whether the project benefits compensate lost agricultural revenues and provide an adequate incentive for sustainable conservation. To be representative of real community conditions, the socio-economic monitoring will be carried out at the family and village level. The trends will be compared with a baseline condition and with similar villages not affected by the project.

5. Socio-economic data will be collected in several ways: (i) by the mobile team of the TSU using a permanent village survey, (ii) by villagers for specific data and (iii) using data

[1] The baseline data will be entered in the socio-economic model prepared during project preparation to measure progress and calculate the expected evolution of indicators.

collected by remote sensing methods[2]. Most of the survey work will be carried-out by the TSU. The team members will be required to collect data in the villages in which they are developing the activities linked to the *gestion de terroir* approach. A survey and data analysis method will be prepared during the first months of Project implementation. The members of the mobile team will be trained in data collection. The mobile team will also spend one month per year surveying villages not included in the project. These villages will represent a control sample, against which the project impact can be measured.

DATA SET

6. Section 1 of Appendix 6 presented a list of indicators. These indicators will be analysed using representative data samples collected at the village level. For example, to construct the indicator **"change in villagers' income due to project"** a set of data on agricultural income, employment income, forest product gathering income, dividend from safari hunting, etc. need to be collected in subsequent years. A list of data required to build the indicators is provided in Table A6-2.

[2] See Table A6-2.

Table A6-2. Representative Socio-economic Data and Collection Method

Subject	What (data)	How (method)	By whom
1. Agriculture	1. Surface under cultivation & distribution of cultivation	1. Satellite images analysis 1. Bi-annual aerial survey (performed primarily for ecological monitoring) 1. Village survey	1.Scientific ecological monitoring consultants 1. TSU mobile-team
	1'. Quantity, Price, Proportion & Yield of each crop 1'. Proportion of crop consumed, given away, bartered and sold by cultivator's family	1'. Village survey	1'. TSU mobile-team
	1". Local livestock numbers	1". Bi annual aerial survey (performed primarily for ecological monitoring) 1". Village survey	1". Scientific ecological monitoring consultants 1". TSU mobile-team
2. Revenues from Natural Resources utilization	2. Revenues from agriculture 2. Revenues from livestock 2. Revenues from traditional hunting 2. Revenues from safari hunting 2. Revenues from forest product gathering 2. Revenues from ecotourism 2. Revenues from craft work 2. Overall income	2. Village survey	2. TSU mobile-team
3. Access to services and improvement of services	3. Health (Child nutrition ?), 3. Education, 3. Social infrastructures	3. Village survey	3. TSU mobile-team

Table A5-2. Representative Socio-economic Data and Collection Method (cont..)

Subject	What (data)	How (method)	By whom
4. Perception of project	4. What is it about? 4. Does it lead to an improvement of people's well being? 4. Social infrastructure match villagers' priorities? 4. Agricultural extension useful? 4. Modification of natural resources utilization behavior 4. Decrease in hunting activities 4. Change in cultivation technique (adoption of sustainable environmentally benign techniques) 4. Change in crop type 4. Role of wildlife in local life and economy	4. Village survey	4. TSU mobile-team
5. Demography and Migrant Pastoralism	5. Census of overall human population	5. Village survey 5 Bi annual aerial survey (Used for comparison only, based on counting of village huts, performed primarily for ecological monitoring)	5. TSU mobile-team 5. Scientific ecological monitoring consultants
	5'. Census of new immigrants and emigrants	5'. Village survey 5' Bi annual aerial survey (performed primarily for ecological monitoring)	5'. TSU mobile-team 5'. Scientific ecological monitoring consultant
	5' Census of transhumant	5". Checkpoints 5" Bi annual aerial survey (performed firstly for ecological monitoring)	5". Villagers 5". Scientific ecological monitoring consultants
6. Impact of project on access to benefits and influence on management decisions by women and other minorities.	6. Minority opinion survey	6. Village survey	6. TSU mobile-team

BURKINA FASO
GEPRENAF
DETAILED PROJECT COSTS

Burkina Faso
GEPRENAF
Table 1. Capacity Building
Detailed Costs
(US$)

	Unit	Quantities						Unit Cost	Base Cost ('000)						Totals Including Contingencies ('000)					
		1995	1996	1997	1998	1999	Total		1995	1996	1997	1998	1999	Total	1995	1996	1997	1998	1999	Total
I. Investment Costs																				
A. Training Equipments																				
Generators	Unit	1	-	-	1	-	2	8,040	8.0	-	-	8.0	-	16.1	9.0	-	-	9.7	-	18.6
Portable Generetors	Unit	1	-	-	1	-	2	2,010	2.0	-	-	2.0	-	4.0	2.2	-	-	2.4	-	4.7
Training A/V Equipments	Lump_Sum	1	-	-	1	-	2	17,085	17.1	-	-	17.1	-	34.2	19.1	-	-	20.5	-	39.6
Subtotal Training Equipments									27.1	-	-	27.1	-	54.3	30.3	-	-	32.6	-	62.9
B. Population Sensitizing																				
Information Seminar	Group_Day	9	-	3	-	-	12	90.909	0.8	-	0.3	-	-	1.1	0.9	-	0.3	-	-	1.2
Acting Presentation	Lump_Sum	3	-	-	-	-	3	545.455	1.6	-	-	-	-	1.6	1.8	-	-	-	-	1.8
Anti-Poaching Sensitizing	Group_Day	9	-	-	-	-	9	90.909	0.8	-	-	-	-	0.8	0.9	-	-	-	-	0.9
Sensitizing on Other Products	Group_Day	9	-	-	9	-	18	90.909	0.8	-	-	0.8	-	1.6	0.9	-	-	0.9	-	1.8
Village Authorities Sensitizing	Group_Day	9	-	5	-	-	14	90.909	0.8	-	0.5	-	-	1.3	0.9	-	0.5	-	-	1.4
Experience Exchanges & Visite	Man_Week	100	350	350	100	-	900	90.909	9.1	31.8	31.8	9.1	-	81.8	10.0	35.0	35.0	10.0	-	90.0
Subtotal Population Sensitizin									14.0	31.8	32.5	9.9	-	88.3	15.4	35.0	35.8	10.9	-	97.1
C. Admin. Authorities Sensitizi																				
National Seminar on Wildlife &	Lump_Sum	1	-	-	-	-	1	7,272.727	7.3	-	-	-	-	7.3	8.0	-	-	-	-	8.0
Ntl Seminar on Participative Ma	Lump_Sum	1	-	-	-	-	1	7,272.727	7.3	-	-	-	-	7.3	8.0	-	-	-	-	8.0
Subtotal Admin. Authorities Se									14.5	-	-	-	-	14.5	16.0	-	-	-	-	16.0
D. Population Training																				
Land Management Training	Group_Day	9	-	-	5	-	14	90.909	0.8	-	-	0.5	-	1.3	0.9	-	-	0.5	-	1.4
Agronomist for Farmers Trainin	unit	2	1	1	1	1	6	1,363.636	2.7	1.4	1.4	1.4	1.4	8.2	3.0	1.5	1.5	1.5	1.5	9.0
Associations Management	Group_Week	2	-	-	1	-	3	363.636	0.7	-	-	0.4	-	1.1	0.8	-	-	0.4	-	1.2
Activities Planning	Group_Week	1	-	-	-	-	1	363.636	0.4	-	-	-	-	0.4	0.4	-	-	-	-	0.4
Marketing Approach	Group_Week	-	1	-	-	-	1	363.636	-	0.4	-	-	-	0.4	-	0.4	-	-	-	0.4
Wildlife Habitat Management	Group_Week	1	-	-	-	-	1	363.636	0.4	-	-	-	-	0.4	0.4	-	-	-	-	0.4
Wildlife Monitoring & Survey	Group_Week	1	-	-	-	-	1	363.636	0.4	-	-	-	-	0.4	0.4	-	-	-	-	0.4
Wildlife & Environment Conserv	Group_Week	1	1	-	-	-	2	363.636	0.4	0.4	-	-	-	0.7	0.4	0.4	-	-	-	0.8
Anti-Poaching Strategies	Group_Week	1	1	-	-	-	2	363.636	0.4	0.4	-	-	-	0.7	0.4	0.4	-	-	-	0.8
Safari Hunting Support	Group_Week	1	1	-	-	-	2	363.636	0.4	0.4	-	-	-	0.7	0.4	0.4	-	-	-	0.8
Ecotourism	Group_Day	-	-	3	-	-	3	363.636	-	-	1.1	-	-	1.1	-	-	1.2	-	-	1.2
Other Products Marketing	Group_Week	2	2	2	-	-	6	363.636	0.7	0.7	0.7	-	-	2.2	0.8	0.8	0.8	-	-	2.4
Population Monitoring & Evaluat	Group_Week	2	2	-	-	-	4	363.636	0.7	0.7	-	-	-	1.5	0.8	0.8	-	-	-	1.6
Other Products Valorization	Group_Week	-	2	-	-	-	2	363.636	-	0.7	-	-	-	0.7	-	0.8	-	-	-	0.8
Subtotal Population Training									7.9	5.0	3.2	2.2	1.4	19.6	8.7	5.5	3.5	2.4	1.5	21.6
E. Pre-AGEREF Training																				
Accounting Training	Lump_Sum	1	1	1	-	-	3	1,072.727	1.1	1.1	1.1	-	-	3.2	1.2	1.2	1.2	-	-	3.5
Planning & Management	Lump_Sum	-	1	1	-	-	2	1,072.727	-	1.1	1.1	-	-	2.1	-	1.2	1.2	-	-	2.4
Subtotal Pre-AGEREF Training									1.1	2.1	2.1	-	-	5.4	1.2	2.4	2.4	-	-	5.9
F. TSU & AGEREF TRAINING																				
Associations Management & Or	Man_Week	9	9	3	3	3	27	90.909	0.8	0.8	0.3	0.3	0.3	2.5	0.9	0.9	0.3	0.3	0.3	2.7
Animation & Self-Promotion	Man_Week	9	9	3	3	3	27	90.909	0.8	0.8	0.3	0.3	0.3	2.5	0.9	0.9	0.3	0.3	0.3	2.7
Group Training	Man_Week	3	3	-	-	-	6	90.909	0.3	0.3	-	-	-	0.5	0.3	0.3	-	-	-	0.6
Operations Planning & Manage	Man_Week	-	3	3	-	-	6	90.909	-	0.3	0.3	-	-	0.5	-	0.3	0.3	-	-	0.6
Procurements & Contracts Mon	Man_Week	4	-	-	-	-	4	90.909	0.4	-	-	-	-	0.4	0.4	-	-	-	-	0.4
Computerized Accounting	Man_Week	10	-	-	-	-	10	90.909	0.9	-	-	-	-	0.9	1.0	-	-	-	-	1.0
Disbursements Training	Man_Week	4	-	-	-	-	4	90.909	0.4	-	-	-	-	0.4	0.4	-	-	-	-	0.4
Biodiversity Management	Man_Week	-	5	10	5	-	20	90.909	-	0.5	0.9	0.5	-	1.8	-	0.5	1.0	0.5	-	2.0
Wildlife Inventory Assessment	Man_Week	10	3	3	-	-	16	90.909	0.9	0.3	0.3	-	-	1.5	1.0	0.3	0.3	-	-	1.6
Anti-Poaching Activities	Group_Week	4	2	1	1	1	9	363.636	1.5	0.7	0.4	0.4	0.4	3.3	1.6	0.8	0.4	0.4	0.4	3.6
Hunting Program Management	Man_Week	-	5	10	5	-	20	90.909	-	0.5	0.9	0.5	-	1.8	-	0.5	1.0	0.5	-	2.0
Ecotourism Management	Man_Week	-	10	10	-	-	20	90.909	-	0.9	0.9	-	-	1.8	-	1.0	1.0	-	-	2.0
Subtotal TSU & AGEREF TRAI									5.9	5.0	4.2	1.8	0.9	17.8	6.5	5.5	4.6	2.0	1.0	19.6
G. Ministry Senior Staff Trainin																				
Orientation Seminar	Lump_Sum	1	-	-	-	-	1	8,581.818	8.6	-	-	-	-	8.6	9.4	-	-	-	-	9.4
Participative Methods	Lump_Sum	6	2	2	2	2	14	545.455	3.3	1.1	1.1	1.1	1.1	7.6	3.6	1.2	1.2	1.2	1.2	8.4
Grants for Biodiversity Manage	Man_Month	2	2	-	-	-	4	804.545	1.6	1.6	-	-	-	3.2	1.8	1.8	-	-	-	3.5
Forestry Guards Training on AP	Man_Week	10	10	10	10	-	40	90.909	0.9	0.9	0.9	0.9	-	3.6	1.0	1.0	1.0	1.0	-	4.0
Trainers Services Payments	Group_Week	10	10	8	2	2	32	363.636	3.6	3.6	2.9	0.7	0.7	11.6	4.0	4.0	3.2	0.8	0.8	12.8

Mobile Tasks Force Training	Man_Week	18	-	-	-	-	18	363.636	6.5	-	-	-	-	6.5	7.2	-	-	-	-	7.2
Subtotal Ministry Senior Staff									24.6	7.2	4.9	2.7	1.8	41.3	27.0	8.0	5.4	3.0	2.0	45.4
H. Technical Authorities Traini																			
Hunting Areas Rehabilitation	Lump_Sum	1	-	-	-	-	1	8,181.818	8.2	-	-	-	-	8.2	9.0	-	-	-	-	9.0
Seminar on Project Manageme	lump_Sum	1	-	-	-	-	1	8,181.818	8.2	-	-	-	-	8.2	9.0	-	-	-	-	9.0
Seminar on Monitoring & Evalu	lump_Sum	1	-	-	-	-	1	8,181.818	8.2	-	-	-	-	8.2	9.0	-	-	-	-	9.0
Subtotal Technical Authorities									24.5	-	-	-	-	24.5	27.0	-	-	-	-	27.0
I. Workshops & Training Instru																			
ZOPP Workshop	Lump_Sum								8.2	-	-	8.2	-	16.4	9.0	-	-	9.0	-	18.0
Pedagogical Training Equipmen	Lump_Sum	1	-	-	1	-	2	15,000	15.0	-	-	15.0	-	30.0	16.7	-	-	17.9	-	34.6
Pedagogical Tools Production	Lump_Sum	1	1	1	1	1	5	18,181.818	18.2	18.2	18.2	18.2	18.2	90.9	20.0	20.0	20.0	20.0	20.0	100.0
Subtotal Workshops & Trainin									41.4	18.2	18.2	41.4	18.2	137.3	45.7	20.0	20.0	46.9	20.0	152.6
J. IUCN Services	Lump_Sum	1	1	1	1	1	5	22,500	22.5	22.5	22.5	22.5	22.5	112.5	25.0	25.6	26.2	26.9	27.6	131.3
K. Admin. Authorities Sensitizi																			
Miscellaneous Training Charge	Lump_Sum	1	1	1	1	1	5	3,636.364	3.6	3.6	3.6	3.6	3.6	18.2	4.0	4.0	4.0	4.0	4.0	20.0
Total Investment Costs									187.2	95.5	91.3	111.3	48.4	533.7	206.8	105.9	101.9	128.8	56.1	599.4
II. Recurrent Costs																			
A. Training Equipments Mainte																			
Generator Repair & Maintenan	Lump_Sum	1	1	1	1	1	5	1,945.413	1.9	1.9	1.9	1.9	1.9	9.7	2.3	2.5	2.6	2.7	2.8	12.9
AV Equipments Maintenance &	Lump_Sum	-	1	1	1	1	4	972.706	-	1.0	1.0	1.0	1.0	3.9	-	1.2	1.3	1.4	1.4	5.3
Portable Generator Repair & M	Lump_Sum	1	1	1	1	1	5	1,556.33	1.6	1.6	1.6	1.6	1.6	7.8	1.9	2.0	2.1	2.2	2.2	10.4
Total Recurrent Costs									3.5	4.5	4.5	4.5	4.5	21.4	4.2	5.7	6.0	6.2	6.4	28.6
Total									190.7	100.0	95.8	115.7	52.9	555.1	211.0	111.6	107.9	135.0	62.5	628.0

\a APA stands for Anti-poaching Activities

Burkina Faso
GEPRENAF
Table 2. TSU Services / Salaries & Allowances /a
Detailed Costs
(US$)

	Unit	Quantities						Unit Cost	Base Cost ('000)						Totals including Contingencies ('000)					
		1995	1996	1997	1998	1999	Total		1995	1996	1997	1998	1999	Total	1995	1996	1997	1998	1999	Total
II. Recurrent Costs																				
A. CTA Staff Salaries																				
Secretary Wage	Man_Year	1	1	1	1	1	5	2,290.909	2.3	2.3	2.3	2.3	2.3	11.5	2.5	2.5	2.5	2.5	2.5	12.6
Drivers Wages	Man_Year	3	3	3	3	3	15	1,418.182	4.3	4.3	4.3	4.3	4.3	21.3	4.7	4.7	4.7	4.7	4.7	23.4
Security Guards Wages	Man_Year	2	2	2	2	2	10	1,309.091	2.6	2.6	2.6	2.6	2.6	13.1	2.9	2.9	2.9	2.9	2.9	14.4
Accountant Wage	Man_Month	12	12	12	12	12	60	636.364	7.6	7.6	7.6	7.6	7.6	38.2	8.4	8.4	8.4	8.4	8.4	42.0
Mobile Task Forces Wages	Man_Month	36	36	36	12	12	132	454.545	16.4	16.4	16.4	5.5	5.5	60.0	18.0	18.0	18.0	6.0	6.0	66.0
Surveillance Assistant Wage	Man_Month	12	12	12	12	12	60	454.545	5.5	5.5	5.5	5.5	5.5	27.3	6.0	6.0	6.0	6.0	6.0	30.0
Ecologie Assistant Wages	Man_Month	12	12	12	12	12	60	454.545	5.5	5.5	5.5	5.5	5.5	27.3	6.0	6.0	6.0	6.0	6.0	30.0
Infrastructure Assistant Wage	Man_Month	12	12	12	12	12	60	454.545	5.5	5.5	5.5	5.5	5.5	27.3	6.0	6.0	6.0	6.0	6.0	30.0
Land Management Specialist Wage /b	Man_Month	12	12	12	12	12	60	454.545	5.5	5.5	5.5	5.5	5.5	27.3	6.0	6.0	6.0	6.0	6.0	30.0
Wildlife Specialist Wage /c	Man_Month	12	12	12	12	12	60	1,818.182	21.8	21.8	21.8	21.8	21.8	109.1	24.0	24.0	24.0	24.0	24.0	120.0
Subtotal CTA Staff Salaries								1,818.182	21.8	21.8	21.8	21.8	21.8	109.1	24.0	24.0	24.0	24.0	24.0	120.0
									93.2	93.2	93.2	82.3	82.3	444.0	102.5	102.5	102.5	90.5	90.5	488.4
B. Daily Subsistance Allowances																				
CTA Coordinator DSA	Man_Day	200	200	200	200	200	1,000	4.545	0.9	0.9	0.9	0.9	0.9	4.5	1.0	1.0	1.0	1.0	1.0	5.0
Mobile Tasks Force DSA	Man_Day	300	300	300	200	200	1,300	3.636	1.1	1.1	1.1	0.7	0.7	4.7	1.2	1.2	1.2	0.8	0.8	5.2
Inter-Zones Mission	Man_Day	32	32	32	32	32	160	90.909	2.9	2.9	2.9	2.9	2.9	14.5	3.2	3.2	3.2	3.2	3.2	16.0
Drivers DSA	Man_Day	150	150	150	150	150	750	3.636	0.5	0.5	0.5	0.5	0.5	2.7	0.6	0.6	0.6	0.6	0.6	3.0
Subtotal Daily Subsistance Allowances									5.5	5.5	5.5	5.1	5.1	26.5	6.0	6.0	6.0	5.6	5.6	29.2
C. CTA Coordinator Duties Compensation	Man_Month	12	12	12	12	12	60	236.364	2.8	2.8	2.8	2.8	2.8	14.2	3.1	3.1	3.1	3.1	3.1	15.6
Total									101.5	101.5	101.5	90.2	90.2	484.7	111.6	111.6	111.6	99.2	99.2	533.2

\a TSU stands for Technical Support Unit
\b The land Management Specialist can be the CTA Coordinator if he has more experience than the Wildlife Specialist
\c The Wildlife Specialist can be the CTA coordinator if he has more experience than the Land Management Specialist

Burkina Faso
GEPRENAF
Table 3. Wildlife & Habitat Management
Detailed Costs
(US$)

	Unit	Quantities						Unit Cost	Base Cost ('000)						Totals Including Contingencies ('000)					
		1995	1996	1997	1998	1999	Total		1995	1996	1997	1998	1999	Total	1995	1996	1997	1998	1999	Total
I. Investment Costs																				
A. Civil Works																				
Village Level Guarding Point	Sq.meter	240	-	-	-	-	240	60	14.4	-	-	-	-	14.4	18.0	-	-	-	-	18.0
Temporary Roads Construction	Kilometer	100	50	50	-	-	200	30	3.0	1.5	1.5	-	-	6.0	3.8	2.0	2.1	-	-	7.9
Permanent Roads Improvement	Kilometer	50	50	-	-	-	100	2,400	120.0	120.0	-	-	-	240.0	150.4	162.2	-	-	-	312.5
Biodiversity Zone Delimitation	Kilometer	120	-	-	-	-	120	4	0.5	-	-	-	-	0.5	0.6	-	-	-	-	0.6
Crossings on Comoé River	Unit	7	7	7	7	7	35	140	1.0	1.0	1.0	1.0	1.0	4.9	1.2	1.3	1.4	1.5	1.5	6.9
Mapping & Satellite Pictures	Sq.Km	1,600	1,600	1,600	1,600	1,600	8,000	3	4.8	4.8	4.8	4.8	4.8	24.0	6.0	6.5	6.8	7.1	7.4	33.8
Water Dam	Unit	1	1	-	-	-	2	20,000	20.0	20.0	-	-	-	40.0	25.1	27.0	-	-	-	52.1
Fire Break	Kilometer	100	-	-	-	-	100	80	8.0	-	-	-	-	8.0	10.0	-	-	-	-	10.0
GPS Equipments	Lump_Sum	2	-	-	-	-	2	1,160	2.3	-	-	-	-	2.3	2.9	-	-	-	-	2.9
Subtotal Civil Works									174.0	147.3	7.3	5.8	5.8	340.1	218.0	199.0	10.4	8.6	8.9	444.8
B. Project Vehicles																				
Four-Wheel-Drive Vehicles	Unit	1	-	-	1	-	2	35,175	35.2	-	-	35.2	-	70.4	39.3	-	-	42.3	-	81.5
Motobykes	units	4	-	-	4	-	8	3,015	12.1	-	-	12.1	-	24.1	13.5	-	-	14.5	-	28.0
Bicycles for Anti-poaching Activities	units	10	-	-	10	-	20	150.75	1.5	-	-	1.5	-	3.0	1.7	-	-	1.8	-	3.5
Subtotal Project Vehicles									48.7	-	-	48.7	-	97.5	54.4	-	-	58.6	-	113.0
C. Project Implementation Equipments																				
Patrol Equipment	Lump_Sum	1	-	-	1	-	2	30,150	30.2	-	-	30.2	-	60.3	33.7	-	-	36.2	-	69.9
Anti-Poaching Talkie-Walkies	Unit	4	-	-	4	-	8	1,005	4.0	-	-	4.0	-	8.0	4.5	-	-	4.8	-	9.3
Forest Exploitation Equipments	Unit	-	1	1	-	-	2	2,010	-	2.0	2.0	-	-	4.0	-	2.3	2.4	-	-	4.6
Subtotal Project Implementation Equipment									34.2	2.0	2.0	34.2	-	72.4	38.2	2.3	2.4	41.1	-	83.9
D. Technical Assistance																				
TA on Wildlife Management /a	man-months	1	-	-	-	-	1	14,000	14.0	-	-	-	-	14.0	15.6	-	-	-	-	15.6
TA on Ecological Monitoring /b	man_months	3	2	1	1	1	8	14,000	42.0	28.0	14.0	14.0	14.0	112.0	46.7	31.8	16.3	16.7	17.2	128.7
TA on Meat Conditionning /c	Man_Weeks	-	4	2	-	-	6	5,000	-	20.0	10.0	-	-	30.0	-	22.7	11.7	-	-	34.4
TA Ecotourism /d	Man_Weeks	-	4	2	-	-	6	5,000	-	20.0	10.0	-	-	30.0	-	22.7	11.7	-	-	34.4
Subtotal Technical Assistance									56.0	68.0	34.0	14.0	14.0	186.0	62.2	77.2	39.6	16.7	17.2	213.0
E. Studies and Research																				
Research/Development on Other Products	Lump_Sum	1	1	1	-	-	3	21,454.545	21.5	21.5	21.5	-	-	64.4	23.6	23.6	23.6	-	-	70.8
Feasibility Study on Medicinal Plants	Lump_Sum	-	1	1	-	-	2	12,872.727	-	12.9	12.9	-	-	25.7	-	14.2	14.2	-	-	28.3
Subtotal Studies and Research									21.5	34.3	34.3	-	-	90.1	23.6	37.8	37.8	-	-	99.1
Total Investment Costs									334.3	251.6	77.6	102.7	19.8	786.1	366.4	316.3	90.1	125.0	26.0	953.8
II. Recurrent Costs																				
A. Infrastructures Maintenance																				
Roads Maintenance	Kilometer	150	270	340	340	340	1,440	8	1.2	2.2	2.7	2.7	2.7	11.5	1.5	2.9	3.9	4.0	4.2	16.5
Crossings Maintenance	Lump_Sum	-	66	116	116	116	414	4	-	0.3	0.5	0.5	0.5	1.7	-	0.4	0.7	0.7	0.7	2.4
Fire Break Maintenance	Kilometer	100	100	100	100	100	500	4	0.4	0.4	0.4	0.4	0.4	2.0	0.5	0.5	0.6	0.6	0.6	2.8
Subtotal Infrastructures Maintenance									1.6	2.8	3.6	3.6	3.6	15.2	2.0	3.8	5.1	5.3	5.5	21.7
B. Vehicles Repair & Maintenance																				
4WD Vehicles Maintenance /e	Kilometer	12,500	15,000	17,000	17,000	17,000	78,500	0.253	3.2	3.8	4.3	4.3	4.3	19.9	3.8	4.9	5.8	6.0	6.2	26.6
Motobykes Repair & Maintenance /f	Kilometer	20,000	32,000	40,000	40,000	40,000	172,000	0.097	1.9	3.1	3.9	3.9	3.9	16.7	2.3	4.0	5.2	5.4	5.6	22.5
Bicycles Repair & Maintenance	Kilometer	5,000	8,000	10,000	10,000	10,000	43,000	0.02	0.1	0.2	0.2	0.2	0.2	0.9	0.1	0.2	0.3	0.3	0.3	1.2
Subtotal Vehicles Repair & Maintenance									5.2	7.1	8.4	8.4	8.4	37.4	6.3	9.1	11.3	11.7	12.0	50.3
C. Equipments Maintenance & Repair																				
Patrol Equipments Maintenance	Lump_Sum	1	1	1	1	1	5	6,000	6.0	6.0	6.0	6.0	6.0	30.0	7.5	8.1	8.6	8.9	9.2	42.3
Talkie-Walkies Repair & Maintenance	Lump_Sum	4	4	4	4	4	20	99.22	0.4	0.4	0.4	0.4	0.4	2.0	0.5	0.5	0.6	0.6	0.6	2.8
Forest E. Equipments Maintenance	Lump_Sum	1	1	1	1	1	5	396.881	0.4	0.4	0.4	0.4	0.4	2.0	0.5	0.5	0.6	0.6	0.6	2.8
Subtotal Equipments Maintenance & Repair									6.8	6.8	6.8	6.8	6.8	34.0	8.5	9.2	9.7	10.1	10.4	47.8
D. Specific Operations																				
"Opération Coup de Poing" /g	Lump_Sum	1	-	-	-	-	1	7,272.727	7.3	-	-	-	-	7.3	8.0	-	-	-	-	8.0
Anti-Poaching Patrol	Lump_Sum	1	1	1	1	1	5	36,363.636	36.4	36.4	36.4	36.4	36.4	181.8	40.0	40.0	40.0	40.0	40.0	200.0
Forestry Guards Insurance	Lump_Sum	10	10	10	10	10	50	63.636	0.6	0.6	0.6	0.6	0.6	3.2	0.7	0.7	0.7	0.7	0.7	3.5
village guards remuneration /h	Man_Month	1,080	1,080	1,080	1,080	1,080	5,400	18.182	19.6	19.6	19.6	19.6	19.6	98.2	21.6	21.6	21.6	21.6	21.6	108.0
Village Survey Technician /i	Man_Month	10	10	10	10	10	50	54.545	0.5	0.5	0.5	0.5	0.5	2.7	0.6	0.6	0.6	0.6	0.6	3.0
Subtotal Specific Operations									64.5	57.2	57.2	57.2	57.2	293.2	70.9	62.9	62.9	62.9	62.9	322.5
Total Recurrent Costs									78.1	73.9	75.9	75.9	75.9	379.8	87.7	84.9	88.9	90.0	90.8	442.4
Total									412.4	325.5	153.6	178.6	95.7	1,165.8	454.1	401.3	179.0	214.9	116.9	1,396.2

\a TA stands for Technical Assistance
\b TA stands for Technical Assistance
\c TA stands for Technical Assistance
\d TA stands for Technical Assistance
\e A 4WD vehicle is expected to run 25,000 Km a year costing CFAF130 per Km
\f A motobyke is expected to run 10,000 Km a year costing CFAF50 per Km
\g Large Operation for anti-poaching activities
\h A village guard is expected to earn CFAF10000 per month; there are 10 of them per village
\i A village guard is expected to earn CFAF12000 per month; there are 10 of them per village

Burkina Faso
GEPRENAF
Table 4. Biodiversity Monitoring & Evaluation
Detailed Costs
(US$)

	Unit	Quantities						Unit Cost	Base Cost ('000)						Totals Including Contingencies ('000)					
		1995	1996	1997	1998	1999	Total		1995	1996	1997	1998	1999	Total	1995	1996	1997	1998	1999	Total
I. Investment Costs																				
A. Monitoring Equipment																				
Biodiversity Monitoring Equipement	Lump_Sum	2	-	-	-	-	2	4,020	8.0	-	-	-	-	8.0	9.0	-	-	-	-	9.0
Large WildLife Monitoring Eqpt	Lump_Sum	2	-	-	-	-	2	9,648	19.3	-	-	-	-	19.3	21.5	-	-	-	-	21.5
Subtotal Monitoring Equipment									27.3	-	-	-	-	27.3	30.5	-	-	-	-	30.5
B. Satellite Maps Interpretations	Sq.Km	1,600	1,600	1,600	1,600	1,600	8,000	3.875	6.2	6.2	6.2	6.2	6.2	31.0	7.4	7.9	8.2	8.5	8.8	40.9
C. Aerial Surveys																				
Specific Mapping	Flight hours	5	5	5	5	5	25	116.257	0.6	0.6	0.6	0.6	0.6	2.9	0.7	0.7	0.8	0.8	0.8	3.8
Wildlife Aerial Survey	Flight hours	10	10	10	10	10	50	116.257	1.2	1.2	1.2	1.2	1.2	5.8	1.4	1.5	1.5	1.6	1.7	7.7
Subtotal Aerial Surveys									1.7	1.7	1.7	1.7	1.7	8.7	2.1	2.2	2.3	2.4	2.5	11.5
Total Investment Costs									35.3	7.9	7.9	7.9	7.9	67.1	40.1	10.1	10.6	10.9	11.3	82.9
II. Recurrent Costs																				
A. Remuneration																				
Trackers Remuneration /a	Man_Month	-	4	4	4	4	16	18.182	-	0.1	0.1	0.1	0.1	0.3	-	0.1	0.1	0.1	0.1	0.3
Population Remuneration	Man_Day	150	150	150	150	150	750	3.636	0.5	0.5	0.5	0.5	0.5	2.7	0.6	0.6	0.6	0.6	0.6	3.0
Subtotal Remuneration									0.5	0.6	0.6	0.6	0.6	3.0	0.6	0.7	0.7	0.7	0.7	3.3
B. Senior Staff Daily Subsistance Allowance	Man_Day	100	100	100	100	100	500	4.545	0.5	0.5	0.5	0.5	0.5	2.3	0.5	0.5	0.5	0.5	0.5	2.5
C. Monitoring Equipment Maintenance																				
Biodiversity Equipments Maintenance	Lump_Sum	-	1	1	1	1	4	920.367	-	0.9	0.9	0.9	0.9	3.7	-	1.2	1.2	1.3	1.3	5.0
Large Wildlife Monitoring Equipments Maintenance	Lump_Sum	-	1	1	1	1	4	2,228.257	-	2.2	2.2	2.2	2.2	8.9	-	2.8	3.0	3.1	3.2	12.0
Subtotal Monitoring Equipment Maintenance									-	3.1	3.1	3.1	3.1	12.6	-	4.0	4.2	4.3	4.5	17.0
Total Recurrent Costs									1.0	4.2	4.2	4.2	4.2	17.9	1.1	5.2	5.4	5.5	5.6	22.8
Total									36.3	12.2	12.2	12.2	12.2	84.9	41.2	15.3	15.9	16.5	16.9	105.7

\a A tracker is expected to earn CFAF 10,000 per month

Burkina Faso
GEPRENAF
Table 5. Social Infrastructures & Land Management
Detailed Costs
(US$)

	Unit	Quantities						Unit Cost	Base Cost ('000)						Totals Including Contingencies ('000)					
		1995	1996	1997	1998	1999	Total		1995	1996	1997	1998	1999	Total	1995	1996	1997	1998	1999	Total
I. Investment Costs																				
A. Social Infrastructures & Land Management /a	Lump_Sum	30	30	20	20	-	100	3,300	99.0	99.0	66.0	66.0	-	330.0	124.0	133.8	94.1	98.0	-	449.9
B. Four-Wheel-Drive Vehicles	units	1	-	-	1	-	2	35,175	35.2	-	-	35.2	-	70.4	39.3	-	-	42.3	-	81.5
C. Motobykes	units	4	-	-	4	-	8	3,015	12.1	-	-	12.1	-	24.1	13.5	-	-	14.5	-	28.0
D. TA on Villages Organization /b	man_months	1	-	-	-	-	1	15,075	15.1	-	-	-	-	15.1	16.8	-	-	-	-	16.8
E. TA Socio-economic Monitoring /c	man-months	3	2	1	1	1	8	1,500	4.5	3.0	1.5	1.5	1.5	12.0	5.6	4.1	2.1	2.2	2.3	16.4
Total Investment Costs									165.8	102.0	67.5	114.7	1.5	451.5	199.3	137.8	96.2	157.0	2.3	592.6
II. Recurrent Costs																				
A. Vehicles Repair & Maintenance																				
4WD Vehicles Maintenance /d	Kilometer	12,500	20,000	25,000	25,000	25,000	107,500	0.253	3.2	5.1	6.3	6.3	6.3	27.2	3.8	6.5	8.5	8.8	9.1	36.6
Motobykes Repair & Maintenance /e	Kilometer	20,000	32,000	40,000	40,000	40,000	172,000	0.097	1.9	3.1	3.9	3.9	3.9	16.7	2.3	4.0	5.2	5.4	5.6	22.5
Total Recurrent Costs									5.1	8.2	10.2	10.2	10.2	43.9	6.2	10.5	13.7	14.2	14.6	59.2
Total									170.9	110.2	77.7	124.9	11.7	495.5	205.4	148.3	109.9	171.2	17.0	651.8

\a Amount allocated on the basis of $35,000 per village spent in the pattern of 30% for the first 2 years & 20% in PY3 & PY4
\b TA stands for Technical Assistance
\c TA stands for Technical Assistance
\d A 4WD vehicle is expected to run 25,000 Km a year costing CFAF130 per Km
\e A motobyke is expected to run 10,000 Km a year costing CFAF50 per Km

Burkina Faso
GEPRENAF
Table 6. Project Management
Detailed Costs
(US$)

	Unit	Quantities						Unit Cost	Base Cost ('000)						Totals Including Contingencies ('000)					
		1995	1996	1997	1998	1999	Total		1995	1996	1997	1998	1999	Total	1995	1996	1997	1998	1999	Total
I. Investment Costs																				
A. Constructions at Project Hea																				
Project Offices	Sq.Meter	150	150	-	-	-	300	104.424	15.7	15.7	-	-	-	31.3	18.3	19.1	-	-	-	37.4
Technical Staff Residence Cons	Sq.Meter	1,000	2,300	-	-	-	3,300	104.424	104.4	240.2	-	-	-	344.6	121.8	292.8	-	-	-	414.6
Subtotal Constructions at Projec									120.1	255.8	-	-	-	375.9	140.1	311.9	-	-	-	452.0
B. Project Vehicles																				
Four-Wheel-Drive Vehicles	Unit	2	-	-	2	-	4	35,175	70.4	-	-	70.4	-	140.7	78.5	-	-	84.5	-	163.1
Motobykes	Unit	3	1	-	3	1	8	3,015	9.0	3.0	-	9.0	3.0	24.1	10.1	3.4	-	10.9	3.7	28.1
Subtotal Project Vehicles									79.4	3.0	-	79.4	3.0	164.8	88.6	3.4	-	95.4	3.7	191.2
C. Project Implementation Equip																				
Micro-Computer /a	Unit	3	-	-	-	3	6	5,025	15.1	-	-	-	15.1	30.2	16.8	-	-	-	18.6	35.4
Small Equipment	Lump_Sum	-	-	1	1	-	2	2,512.5	-	-	2.5	2.5	-	5.0	-	-	2.9	3.0	-	6.0
Copy Machines	Unit	1	-	-	-	1	2	7,035	7.0	-	-	-	7.0	14.1	7.9	-	-	-	8.7	16.5
Communication Equipments	Lump_Sum	1	-	-	-	1	2	1,507.5	1.5	-	-	-	1.5	3.0	1.7	-	-	-	1.9	3.5
Patrol Equipment	Lump_Sum	1	-	-	1	-	2	30,150	30.2	-	-	30.2	-	60.3	33.7	-	-	36.2	-	69.9
Anti-Poaching Talkie-Walkies	Unit	4	-	-	4	-	8	1,005	4.0	-	-	4.0	-	8.0	4.5	-	-	4.8	-	9.3
Subtotal Project Implementation									57.8	-	2.5	36.7	23.6	120.6	64.5	-	2.9	44.1	29.1	140.7
D. Project Financial Audit	Lump_Sum	1	1	1	1	1	5	30,909.091	30.9	30.9	30.9	30.9	30.9	154.5	34.0	34.0	34.0	34.0	34.0	170.0
E. Administrative Management	man_weeks	2	2	2	2	2	10	400	0.8	0.8	0.8	0.8	0.8	4.0	1.0	1.1	1.1	1.2	1.2	5.6
Total Investment Costs									289.0	290.6	34.2	147.8	58.3	819.9	328.3	350.4	38.1	174.7	68.1	959.5
II. Recurrent Costs																				
A. Ministry Senior Staff DSA /b																				
National Level Staff DSA /c	Man_Day	30	30	30	30	30	150	27.273	0.8	0.8	0.8	0.8	0.8	4.1	0.9	0.9	0.9	0.9	0.9	4.5
Regional Level Staff DSA /d	Man_Day	50	50	50	50	50	250	27.273	1.4	1.4	1.4	1.4	1.4	6.8	1.5	1.5	1.5	1.5	1.5	7.5
Subtotal Ministry Senior Staff DS									2.2	2.2	2.2	2.2	2.2	10.9	2.4	2.4	2.4	2.4	2.4	12.0
B. Constructions Maintenance																				
Offices Maintenance	Lump_Sum	-	1	1	1	1	4	480	-	0.5	0.5	0.5	0.5	1.9	-	0.6	0.7	0.7	0.7	2.8
Residences Maintenance	Lump_Sum	-	1	1	1	1	4	200	-	0.2	0.2	0.2	0.2	0.8	-	0.3	0.3	0.3	0.3	1.2
Subtotal Constructions Maintena									-	0.7	0.7	0.7	0.7	2.7	-	0.9	1.0	1.0	1.0	3.9
C. Vehicles Repair & Maintenanc																				
4WD Vehicles Maintenance /e	Kilometer	25,000	30,000	34,000	34,000	34,000	157,000	0.253	6.3	7.6	8.6	8.6	8.6	39.7	7.6	9.7	11.5	12.0	12.3	53.2
Motobykes Repair & Maintenan	Kilometer	15,000	32,000	40,000	40,000	40,000	167,000	0.097	1.5	3.1	3.9	3.9	3.9	16.2	1.8	4.0	5.2	5.4	5.6	22.0
Subtotal Vehicles Repair & Maint									7.8	10.7	12.5	12.5	12.5	56.0	9.4	13.7	16.7	17.4	17.9	75.1
D. Equipments Maintenance & R																				
Micro-Computer Maintenance &	Lump_Sum	2	2	2	2	2	10	778.165	1.6	1.6	1.6	1.6	1.6	7.8	1.9	2.0	2.1	2.2	2.2	10.4
Copy Machines Maintenance &	Lump_Sum	1	1	1	1	1	5	1,556.33	1.6	1.6	1.6	1.6	1.6	7.8	1.9	2.0	2.1	2.2	2.2	10.4
Subtotal Equipments Maintenan									3.1	3.1	3.1	3.1	3.1	15.6	3.8	4.0	4.2	4.3	4.5	20.7
E. Other Operating Costs																				
Office Supplies	Lump_Sum	1	1	1	1	1	5	2,400	2.4	2.4	2.4	2.4	2.4	12.0	3.0	3.2	3.4	3.6	3.7	16.9
Communication Charges	Lump_Sum	1	1	1	1	1	5	10,000	10.0	10.0	10.0	10.0	10.0	50.0	12.5	13.5	14.3	14.8	15.3	70.5
Ministry Incremental Charges	Lump_Sum	1	1	1	1	1	5	2,727.273	2.7	2.7	2.7	2.7	2.7	13.6	3.0	3.0	3.0	3.0	3.0	15.0
Subtotal Other Operating Costs									15.1	15.1	15.1	15.1	15.1	75.6	18.5	19.8	20.7	21.4	22.0	102.4
Total Recurrent Costs									28.2	31.8	33.6	33.6	33.6	160.8	34.1	40.8	45.0	46.5	47.8	214.2
Total									317.2	322.4	67.8	181.4	91.9	980.7	362.4	391.2	83.0	221.2	115.9	1,173.7

\a It is suggested to have 3 computer terminals Sharing the same printer and power regulator
\b DSA stands for Daily Subsistance Allowance
\c The National Coordinator is expected to participate in supervision missions initiated by the Bank or the Government, 4 days per trimester & 10 days per year
\d It is expected that a senior staff at the regional level reports to the National Coordinator every month, say, a 4-day-mission per month
\e A 4WD vehicle is expected to run 25,000 Km a year costing CFAF130 per Km
\f A motobyke is expected to run 10,000 Km a year costing CFAF50 per Km

COTE D'IVOIRE

GEPRENAF

DETAILED PROJECT COSTS

Côte d'Ivoire
GEPRENAF
Table 1. HUMAN RESOURCES DEVELOPMENT
Detailed Costs
(US$)

	Unit	Quantities						Unit Cost	Totals Including Contingencies ('000)					
		1995	1996	1997	1998	1999	Total		1995	1996	1997	1998	1999	Total
I. Investment Costs														
A. Workshops & Training Instruments Productions														
ZOPP Workshop	Lump_Sum	1	-	-	1	-	2	18,000	22.0	-	-	25.6	-	47.6
Pedagogical Training Equipments	Lump_Sum	1	-	-	1	-	2	10,000	11.3	-	-	12.2	-	23.5
Pedagogical Tools Production	Lump_Sum	1	1	1	1	1	5	20,000	24.4	25.9	27.2	28.5	29.6	135.6
Subtotal Workshops & Training Instruments Productions									57.7	25.9	27.2	66.3	29.6	206.7
B. Training & Sensitizing Equipements														
Generators	Unit	2	-	-	2	-	4	8,000	18.1	-	-	19.5	-	37.6
Portable Generetors	Unit	2	-	-	-	2	4	2,000	4.5	-	-	-	5.0	9.5
Training A/V Equipment /a	Lump_Sum	1	-	-	1	-	2	32,334	37.1	-	-	40.6	-	77.7
Subtotal Training & Sensitizing Equipements									59.8	-	-	60.1	5.0	124.9
C. Population Sensitizing														
Information Seminar	Group_Day	20	-	6	-	-	26	90.909	2.0	-	0.6	-	-	2.6
Acting Presentation	Lump_Sum	12	-	-	-	-	12	545.455	7.2	-	-	-	-	7.2
Anti-Poaching Sensitizing	Group_Day	25	-	-	-	-	25	90.909	2.5	-	-	-	-	2.5
Sensitizing on Other Products	Group_Day	40	-	-	40	-	80	90.909	4.0	-	-	4.0	-	8.0
Village Authorities Sensitizing	Group_Day	10	-	5	-	-	15	90.909	1.0	-	0.5	-	-	1.5
Experience Exchanges & Visites /b	Man_Week	400	1,600	1,600	400	-	4,000	90.909	40.0	160.0	160.0	40.0	-	400.0
Subtotal Population Sensitizing									56.7	160.0	161.1	44.0	-	421.8
D. Admin. Authorities Sensitizing														
National Seminar on Wildlife & Biodiversity	Lump_Sum	1	-	-	-	-	1	16,363.636	18.0	-	-	-	-	18.0
Nt'l Seminar on Participative Management	Lump_Sum	1	-	-	-	-	1	16,363.636	18.0	-	-	-	-	18.0
Subtotal Admin. Authorities Sensitizing									36.0	-	-	-	-	36.0
E. Population Training														
Land Management Training	Group_Day	40	-	-	10	-	50	90.909	4.0	-	-	1.0	-	5.0
Associations Management	Group_Week	2	-	-	2	-	4	363.636	0.8	-	-	0.8	-	1.6
Activities Planning	Group_Week	2	-	-	-	-	2	363.636	0.8	-	-	-	-	0.8
Marketing Approach	Group_Week	-	2	-	-	-	2	363.636	-	0.8	-	-	-	0.8
Wildlife Habitat Management	Group_Week	2	-	-	-	-	2	363.636	0.8	-	-	-	-	0.8
Wildlife Monitoring & Survey	Group_Week	2	-	-	-	-	2	363.636	0.8	-	-	-	-	0.8
Wildlife & Environment Conservation	Group_Week	2	4	2	-	-	8	363.636	0.8	1.6	0.8	-	-	3.2
Anti-Poaching Strategies /c	Group_Week	2	2	-	-	-	4	363.636	0.8	0.8	-	-	-	1.6
Safari Hunting Support	Group_Day	-	-	4	-	-	8	363.636	0.8	1.6	0.8	-	-	3.2
Ecotourism	Group_Week	4	4	4	-	-	12	363.636	1.6	1.6	1.6	-	-	4.8
Other Products Marketing	Group_Week	4	4	-	-	-	8	363.636	1.6	1.6	-	-	-	3.2
Monitoring & Evaluation by Population	Group_Week	-	4	-	-	-	4	363.636	-	1.6	-	-	-	1.6
Other Products Valorization	Group_Week	-	8	8	-	-	16	363.636	-	3.2	3.2	-	-	6.4
Handicraft Training									12.8	12.8	8.0	1.8	-	35.4
Subtotal Population Training														
F. Pre-AGEREF Training														
Accounting Training	Lump_Sum	2	4	2	-	-	8	1,072.727	2.4	4.7	2.4	-	-	9.4
Planning & Management	Lump_Sum	-	1	1	1	1	4	1,072.727	-	1.2	1.2	1.2	1.2	4.7
Subtotal Pre-AGEREF Training									2.4	5.9	3.5	1.2	1.2	14.2
G. TSU & AGEREF TRAINING														
Associations Management & Organization	Man_Week	16	16	-	-	-	32	90.909	1.6	1.6	-	-	-	3.2
Animation & Self-Promotion	Man_Week	16	16	-	-	-	32	90.909	1.6	1.6	-	-	-	3.2
Group Training	Man_Week	10	10	-	-	-	20	90.909	1.0	1.0	-	-	-	2.0
Operations Planning & Management	Man_Week	-	10	10	-	-	20	90.909	-	1.0	1.0	-	-	2.0
Procurements & Contracts Monitoring	Man_Week	16	-	-	-	-	16	90.909	1.6	-	-	-	-	1.6
Computerized Accounting	Man_Week	16	-	-	-	-	16	90.909	1.6	-	-	-	-	1.6
Disbursements Training	Man_Week	16	-	-	-	-	16	90.909	1.6	-	-	-	-	1.6
Biodiversity Management	Man_Week	-	10	20	10	-	40	90.909	-	1.0	2.0	1.0	-	4.0
Wildlife Inventory Assessment	Man_Week	20	10	10	-	-	40	90.909	2.0	1.0	1.0	-	-	4.0
Anti-Poaching Activities	Group_Week	8	4	2	2	2	18	1,818.182	16.0	8.0	4.0	4.0	4.0	36.0

Hunting Program Management	Man_Week	-	10	20	10	-	40	90.909	-	1.0	2.0	1.0	-	4.0
Ecotourism Management	Man_Week	-	20	20	-	-	40	90.909	-	2.0	2.0	-	-	4.0
Subtotal TSU & AGEREF TRAINING									27.0	18.2	12.0	6.0	4.0	67.2
H. Ministry Senior Staff Training														
Orientation Seminar	Lump_Sum	1	-	-	-	-	1	8,581.818	9.4	-	-	-	-	9.4
Participative Methods	Lump_Sum	12	4	4	4	4	28	545.455	7.2	2.4	2.4	2.4	2.4	16.8
Grants for Biodiversity Management T.	Man_Month	4	4	-	-	-	8	804.545	3.5	3.5	-	-	-	7.1
Forestry Guards Training	Man_Week	60	60	60	60	-	240	90.909	6.0	6.0	6.0	6.0	-	24.0
Trainers Services Payments	Group_Week	20	20	10	10	10	70	363.636	8.0	8.0	4.0	4.0	4.0	28.0
Subtotal Ministry Senior Staff Training									34.2	19.9	12.4	12.4	6.4	85.3
I. Technical Authorities Training														
Hunting Areas Rehabilitation	Lump_Sum	1	-	-	-	-	1	8,181.818	9.0	-	-	-	-	9.0
Seminar on Project Management	lump_Sum	1	-	-	-	-	1	12,727.273	14.0	-	-	-	-	14.0
Seminar on Monitoring & Evaluation	lump_Sum	1	-	-	-	-	1	12,727.273	14.0	-	-	-	-	14.0
Subtotal Technical Authorities Training									37.0	-	-	-	-	37.0
J. Agronomist for Farmers Training	man_weeks	6	2	2	2	2	14	363.636	2.4	0.8	0.8	0.8	0.8	5.6
K. UICN Services	Lump_Sum	1	1	1	1	1	5	40,800	46.2	47.3	48.5	49.8	51.0	242.8
Total Investment Costs									372.2	290.8	273.6	242.3	98.0	1,276.9
II. Recurrent Costs														
A. Equipments Maintenance & Repair														
Generator Repair & Maintenance	Lump_Sum	2	2	2	2	2	10	1,942.202	4.6	4.9	5.1	5.3	5.5	25.3
A/V Equipments Maintenance & Repair	Lump_Sum	-	1	1	1	1	4	971.101	-	1.2	1.3	1.3	1.4	5.2
Portable Generator Repair & Maintenance	Lump_Sum	2	2	2	2	2	10	1,553.761	3.7	3.9	4.1	4.2	4.4	20.2
Total Recurrent Costs									8.3	9.9	10.4	10.8	11.2	50.6
Total									380.5	300.7	284.0	253.1	109.2	1,327.5

\a Duty=5%, Domestic Value Added=20% & Domestic Tax=27,5%.
\b 40 individuals per village will participate in visites, with 10 of them (mainly village authorities) in PY1 & PY4.
\c There are 20 village guards per site

Côte d'Ivoire
GEPRENAF
Table 2. TSU Services / Salaries & Allowances
Detailed Costs
(US$)

	Unit	Quantities						Unit Cost	Totals Including Contingencies ('000)					
		1995	1996	1997	1998	1999	Total		1995	1996	1997	1998	1999	Total
II. Recurrent Costs														
A. CTA Staff Salaries														
Secretary Wage	Man_Year	2	2	2	2	2	10	2,181.818	4.8	4.8	4.8	4.8	4.8	24.0
Drivers Wages	Man_Year	6	6	6	6	6	30	1,745.455	11.5	11.5	11.5	11.5	11.5	57.6
Security Guards Wages	Man_Year	4	4	4	4	4	20	1,090.909	4.8	4.8	4.8	4.8	4.8	24.0
Accountant Wage	Man_Month	24	24	24	24	24	120	727.273	19.2	19.2	19.2	19.2	19.2	96.0
Mobile Task Forces Wages	Man_Month	72	72	72	48	48	312	454.545	36.0	36.0	36.0	24.0	24.0	156.0
Surveillance Assistants Wages	Man_Month	24	24	24	24	24	120	454.545	12.0	12.0	12.0	12.0	12.0	60.0
Infrastructure Assistant Wage	Man_Month	24	24	24	24	24	120	454.545	12.0	12.0	12.0	12.0	12.0	60.0
Ecologie Assistants Wages	Man_Month	24	24	24	24	24	120	454.545	12.0	12.0	12.0	12.0	12.0	60.0
Land Management Specialist Wage	Man_Month	24	24	24	24	24	120	1,818.182	48.0	48.0	48.0	48.0	48.0	240.0
Wildlife Specialist Wage	Man_Month	24	24	24	24	24	120	1,818.182	48.0	48.0	48.0	48.0	48.0	240.0
Subtotal CTA Staff Salaries									208.3	208.3	208.3	196.3	196.3	1,017.6
B. Daily Subsistance Allowances (DSA)														
CTA Coordinator in-zone DSA	Man_Day	110	110	110	110	110	550	5	0.7	0.7	0.7	0.8	0.8	3.7
CTA Coordinator inter-zone DSA	Man_Day	55	55	55	55	55	275	30	2.0	2.1	2.2	2.3	2.4	11.2
Mobile Task Forces DSA	Man_Day	600	600	600	300	300	2,400	4	2.9	3.1	3.3	1.7	1.8	12.8
Inter-Zones Mission	Man_Day	60	60	60	60	60	300	100	7.3	7.8	8.2	8.5	8.9	40.7
Drivers in-zone DSA	Man_Day	350	350	350	350	350	1,750	4	1.7	1.8	1.9	2.0	2.1	9.5
Drivers inter-zone DSA	Man_Day	330	330	330	330	330	1,650	15	6.0	6.4	6.7	7.0	7.3	33.6
Provision for additional missions	lump_sum								3.3	5.5	11.0	8.8	5.5	34.1
Subtotal Daily Subsistance Allowances (DSA)									24.0	27.4	34.1	31.2	28.8	145.5
C. CTA Coordinator Duties Compensation	Man_Month	12	12	12	12	12	60	200	2.9	3.1	3.3	3.4	3.6	16.3
Total									235.2	238.8	245.7	230.9	228.7	1,179.4

Côte d'Ivoire
GEPRENAF
Table 3. Wildlife & Habitat Management
Detailed Costs
(US$)

	Unit	Quantities						Unit Cost	Totals Including Contingencies ('000)					
		1995	1996	1997	1998	1999	Total		1995	1996	1997	1998	1999	Total
I. Investment Costs														
Village Level Guarding Point	Sq.meter	160	-	-	-	-	160	60	11.7	-	-	-	-	11.7
Temporary Roads	Kilometer	200	200	115	-	-	515	30	7.3	7.8	4.7	-	-	19.8
Permanent Roads Rehabilitation	Kilometer	100	50	-	-	-	150	2,400	292.9	155.2	-	-	-	448.1
Delimitation /a	Kilometer	420	-	-	-	-	420	2	1.0	-	-	-	-	1.0
Mapping & Satelite Pictures	Sq.Km	3,000	3,000	3,000	3,000	3,000	15,000	3	11.0	11.6	12.3	12.8	13.3	61.0
Landing Strip Rehabilitation	Lump_Sum	1	-	-	-	-	1	1,000	1.2	-	-	-	-	1.2
Water Dam	Unit	2	1	-	-	-	3	20,000	48.8	25.9	-	-	-	74.7
Fire Breaks	Kilometer	100	-	-	-	-	100	80	9.8	-	-	-	-	9.8
GPS Equipments	Lump_Sum	4	-	-	-	-	4	1,064.22	4.8	-	-	-	-	4.8
Four-Wheel-Drive Vehicles /b	units	2	-	-	-	2	4	38,414.679	90.7	-	-	-	105.6	196.3
Motobykes /c	units	10	6	-	10	6	32	3,178.899	37.6	23.6	-	42.5	26.4	130.1
Bicycles for Anti-poaching Activities	units	20	-	-	20	-	40	170	4.1	-	-	4.8	-	9.0
Forest Products Exploitation Equipments	Lump_Sum	-	2	2	-	-	4	2,000	-	4.6	4.8	-	-	9.4
Patrol Equipments	Lump_Sum								36.4	-	-	40.5	-	76.9
Anti-Poaching Talkie-Walkies	units	8	-	-	8	-	16	1,084.842	10.1	-	-	11.5	-	21.6
TA on Wildlife Management /d	man_months	2	-	-	-	-	2	15,300	34.7	-	-	-	-	34.7
TA on Ecological Monitoring /e	man_months	4	3	1	1	1	10	15,300	69.4	53.2	16.2	18.7	19.1	178.5
TA on Meat Conditionning /f	Man_Weeks	8	8	4	-	-	20	5,100	46.2	47.3	24.3	-	-	117.8
TA on Ecotourism /g	Man_Weeks	8	8	4	-	-	20	5,100	46.2	47.3	24.3	-	-	117.8
Research/Development on Other Products	Lump_Sum	2	2	2	-	-	6	23,600	57.6	61.0	64.3	-	-	182.9
Feasibility Study on Medicinal Plants	Lump_Sum	-	2	2	-	-	4	14,160	-	36.6	38.6	-	-	75.2
Total Investment Costs									821.7	474.1	191.3	130.8	164.5	1,782.3
II. Recurrent Costs														
Roads Maintenance	Kilometer	300	550	625	625	625	2,725	8	2.9	5.7	6.8	7.1	7.4	29.9
Landing Strip Maintenance	Lump_Sum	-	1	1	1	1	4	1,000	-	1.3	1.4	1.4	1.5	5.6
Fire Breaks Maintenance	Kilometer	200	200	200	200	200	1,000	4	1.0	1.0	1.1	1.1	1.2	5.4
"Opération Coup de Poing" /h	Lump_Sum	2	-	-	-	-	2	8,000	19.5	-	-	-	-	19.5
Village Survey Technician /i	man_months	20	20	20	20	20	100	70	1.7	1.8	1.9	2.0	2.1	9.5
Anti-Poaching Patrol	Lump_Sum	2	2	2	2	2	10	40,000	97.6	103.5	108.9	113.8	118.4	542.3
Bicycles Repair & Maintenance	Kilometer	10,000	10,000	10,000	10,000	10,000	50,000	0.04	0.5	0.5	0.5	0.6	0.6	2.7
4WD Vehicles Maintenance	Kilometer	30,000	30,000	30,000	30,000	30,000	150,000	0.252	9.0	9.5	9.9	10.3	10.6	49.3
Motobykes Repair & Maintenance	Kilometer	50,000	80,000	80,000	80,000	80,000	370,000	0.058	3.5	5.8	6.1	6.3	6.5	28.2
Talkie-Walkies Repair & Maintenance	Lump_Sum	8	8	8	8	8	40	97.11	0.9	1.0	1.0	1.1	1.1	5.1
Forestry Guards Insurance	Man-Year	16	16	16	16	16	80	80	1.6	1.7	1.7	1.8	1.9	8.7
Village Guards Remuneration	lump_sum	4,800	4,800	4,800	4,800	4,800	24,000	24	140.6	149.0	156.9	163.9	170.5	780.9
Provision for Miscellaneous Charges									7.7	5.5	5.5	5.5	5.5	29.7
Total Recurrent Costs									286.5	286.2	301.8	315.0	327.3	1,516.7
Total									1,108.2	760.3	493.0	445.7	491.7	3,299.0

\a APA stands for Anti-poaching Activities
\b Duty=5%, Domestic Value Added=20% & Domestic Tax=12,5%
\c Duty = 5%; Domestic Value Added = 20% & Domestic Tax=12,5%
\d TA stands for Technical Assistance
\e TA stands for Technical Assistance
\f TA stands for Technical Assistance
\g TA stands for Technical Assistance
\h Large operation for anti-poaching activities
\i In charge of the village-based wildlife inventory

Côte d'Ivoire
GEPRENAF
Table 4. Biodiversity Monitoring & Evaluation
Detailed Costs
(US$)

	Unit	Quantities						Unit Cost	Totals Including Contingencies ('000)					
		1995	1996	1997	1998	1999	Total		1995	1996	1997	1998	1999	Total
I. Investment Costs														
A. Monitoring Equipment														
Biodiversity Monitoring Equipements	Lump_Sum	2	-	-	-	-	2	4,000	9.1	-	-	-	-	9.1
Large WildLife Monitoring Eqpts	Lump_Sum	2	-	-	-	-	2	9,600	21.8	-	-	-	-	21.8
Subtotal Monitoring Equipment									30.8	-	-	-	-	30.8
B. Satelite Maps Interpretation	Sq.Km	3,200	3,200	3,200	3,200	3,200	16,000	3.868	14.7	15.4	16.0	16.7	17.2	80.0
C. Aerial Surveys														
Specefic Mapping	Flight hours	10	10	10	10	10	50	116.037	1.4	1.4	1.5	1.6	1.6	7.5
Wildlife Aerial Survey	Flight hours	20	20	20	20	20	100	116.037	2.8	2.9	3.0	3.1	3.2	15.0
Subtotal Aerial Surveys									4.1	4.3	4.5	4.7	4.8	22.5
Total Investment Costs									49.7	19.7	20.6	21.3	22.1	133.3
II. Recurrent Costs														
A. Remuneration														
Trackers Remuneration	Man_Month	-	8	8	8	8	32	60	-	0.6	0.7	0.7	0.7	2.7
Population Remuneration	Man_Day	300	300	300	300	300	1,500	4	1.5	1.6	1.6	1.7	1.8	8.1
Subtotal Remuneration									1.5	2.2	2.3	2.4	2.5	10.8
B. Senior Staff Daily Subsistance Allowance	Man_Day	200	200	200	200	200	1,000	4.545	1.0	1.0	1.0	1.0	1.0	5.0
C. Monitoring Equipment Maintenance														
Biodiversity Equipments Maintenance	Lump_Sum	2	2	2	2	2	10	918.624	2.2	2.3	2.4	2.5	2.6	11.9
Large Wildlife Monitoring Equipments Maintenance	Lump_Sum	2	2	2	2	2	10	2,224.037	5.3	5.5	5.8	6.0	6.2	28.8
Subtotal Monitoring Equipment Maintenance									7.5	7.8	8.1	8.5	8.8	40.6
Total Recurrent Costs									9.9	11.0	11.4	11.8	12.2	56.4
Total									59.6	30.7	32.0	33.2	34.3	189.8

Côte d'Ivoire
GEPRENAF
Table 5. Social Infrastructures
Detailed Costs
(US$)

	Unit	Quantities						Unit Cost	Totals Including Contingencies ('000)					
		1995	1996	1997	1998	1999	Total		1995	1996	1997	1998	1999	Total
I. Investment Costs														
A. Social Infrastructures & Land Management /a	Lump_Sum	30	30	20	20	-	100	5,800	212.3	225.1	158.0	165.1	-	760.4
B. Project Vehicles														
Four-Wheel-Drive Vehicles	Unit	2	-	-	-	2	4	38,414.679	90.7	-	-	-	105.6	196.3
Motobykes	Unit	5	3	-	5	3	16	3,178.899	18.8	11.8	-	21.3	13.2	65.0
Subtotal Project Vehicles									109.5	11.8	-	21.3	118.8	261.4
C. TA on Villages Organization /b	man_months	2	-	-	-	-	2	15,300	34.7	-	-	-	-	34.7
D. TA on Socio-economic Monitoring /c	man_weeks	3	2	1	1	1	8	400	1.5	1.0	0.5	0.6	0.6	4.2
Total Investment Costs									358.0	237.9	158.5	186.9	119.4	1,060.7
II. Recurrent Costs														
A. Vehicles Maintenance & Repair														
4WD Vehicles Maintenance	units	30,000	30,000	30,000	30,000	30,000	150,000	0.252	9.0	9.5	9.9	10.3	10.6	49.3
Motobykes Repair & Maintenance	units	50,000	80,000	80,000	80,000	80,000	370,000	0.097	5.8	9.7	10.1	10.5	10.9	47.1
Total Recurrent Costs									14.8	19.2	20.0	20.8	21.5	96.3
Total									372.8	257.0	178.5	207.7	141.0	1,157.0

\a Amount allocated on the basis of $35,000 per Village spent in the pattern of 30% for the first two years & 20% for each of PY3 & PY4
\b TA stands for Technical Assistance
\c TA stands for Technical Assistance

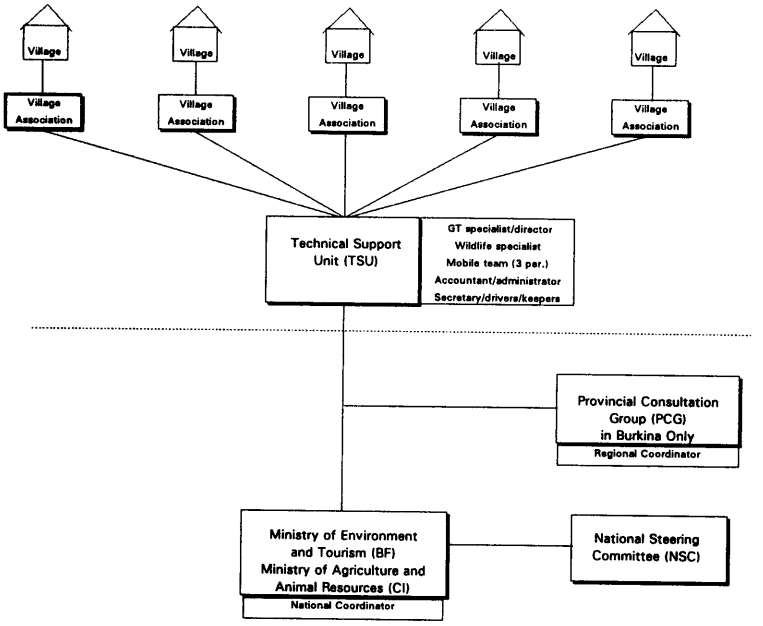
Côte d'Ivoire
GEPRENAF
Table 6. Project Management
Detailed Costs
(US$)

	Unit	Quantities						Unit Cost	Totals Including Contingencies ('000)					
		1995	1996	1997	1998	1999	Total		1995	1996	1997	1998	1999	Total
I. Investment Costs														
A. Constructions at Project Headquaters														
Project Offices	Sq.Meter	150	150	-	-	-	300	104.096	18.2	18.9	-	-	-	37.1
Technical Staff Residence Cons.	Sq.Meter	1,000	2,300	-	-	-	3,300	104.096	121.3	289.4	-	-	-	410.7
Subtotal Constructions at Project Headquaters									139.5	308.2	-	-	-	447.7
B. Project Vehicles														
Four-Wheel-Drive Vehicles	Unit	2	-	-	-	2	4	38,414.679	90.7	-	-	-	105.6	196.3
Motobykes	Unit	6	-	-	6	-	12	3,027.523	20.6	-	-	22.2	-	42.7
Subtotal Project Vehicles									111.3	-	-	22.2	105.6	239.1
C. Project Implementation Equipments														
Micro-Computer /a	units	3	2	-	-	5	10	4,733.649	16.6	11.4	-	-	31.6	59.6
Small Equipments	Lump_Sum	-	-	2	2	-	4	4,587.156	-	-	10.9	11.2	-	22.1
Copy Machines	Unit	2	-	-	-	2	4	10,648.417	25.3	-	-	-	29.7	55.0
Communication Equipments	Lump_Sum	2	-	-	-	2	4	1,609.441	3.8	-	-	-	4.3	8.1
Subtotal Project Implementation Equipments									45.6	11.4	10.9	11.2	65.7	144.8
D. Project Financial Audit	Lump_Sum	1	1	1	1	1	5	36,363.636	40.0	40.0	40.0	40.0	40.0	200.0
E. TA on Administrative Management	man_weeks	4	4	4	4	4	20	363.636	1.6	1.6	1.6	1.6	1.6	8.0
Total Investment Costs									338.0	361.3	52.5	74.9	212.9	1,039.6
II. Recurrent Costs														
A. Ministry Senior Staff DSA														
National Coordinator /b	Man_Day	12	12	12	12	12	60	2,727.273	36.0	36.0	36.0	36.0	36.0	180.0
Support Staff	Man_Day	24	24	24	24	24	120	272.727	7.2	7.2	7.2	7.2	7.2	36.0
Subtotal Ministry Senior Staff DSA									43.2	43.2	43.2	43.2	43.2	216.0
B. Constructions Maintenance														
Offices Maintenance	Lump_Sum	-	1	1	1	1	4	480	-	0.6	0.7	0.7	0.7	2.7
Residences Maintenance	Lump_Sum	-	1	1	1	1	4	200	-	0.3	0.3	0.3	0.3	1.1
Subtotal Constructions Maintenance									-	0.9	0.9	1.0	1.0	3.8
C. Vehicles Repair & Maintenance														
4WD Vehicles Maintenance	Kilometer	25,000	25,000	25,000	25,000	25,000	125,000	0.252	7.5	7.9	8.2	8.6	8.9	41.1
Motobykes Repair & Maintenance	Kilometer	60,000	60,000	60,000	60,000	60,000	300,000	0.097	6.9	7.3	7.6	7.9	8.2	37.9
Subtotal Vehicles Repair & Maintenance									14.5	15.2	15.8	16.5	17.0	79.0
D. Equipments Maintenance & Repair														
Micro-Computer Maintenance & Repair	Lump_Sum	2	3	3	3	3	14	776.881	1.9	2.9	3.0	3.2	3.3	14.2
Copy Machines Maintenance & Repair	Lump_Sum	2	2	2	2	2	10	1,553.761	3.7	3.9	4.1	4.2	4.4	20.2
Subtotal Equipments Maintenance & Repair									5.6	6.8	7.1	7.4	7.6	34.4
E. Other Operating Costs														
Office Supplies	Lump_Sum	2	2	2	2	2	10	2,400	5.9	6.2	6.5	6.8	7.1	32.5
Communication Charges	Lump_Sum	2	2	2	2	2	10	6,000	14.6	15.5	16.3	17.1	17.8	81.3
Ministry Support Allowance	Lump_Sum	1	1	1	1	1	5	10,000	12.2	12.9	13.6	14.2	14.8	67.8
Subtotal Other Operating Costs									32.7	34.7	36.5	38.1	39.7	181.7
Total Recurrent Costs									95.9	100.7	103.6	106.1	108.5	514.9
Total									433.9	462.0	156.1	181.1	321.4	1,554.5

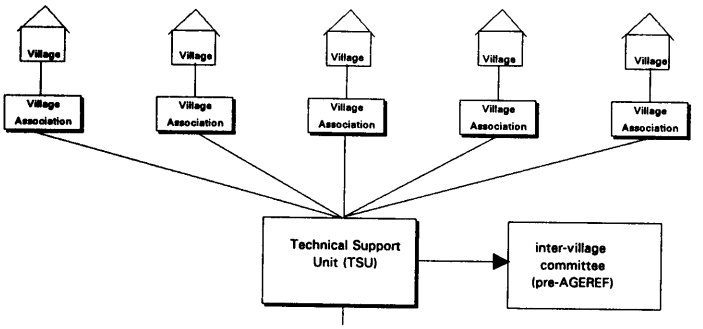
\a It is suggested to have 3 computers sharing the same printer & power regulator
\b The National Coordinantor & Assistant are expected to conduct supervision missions every quater for 4 days, and participate in Bank's supervision once a year for 10 days.

BURKINA FASO and COTE D'IVOIRE
GEPRENAF
ORGANIZATIONAL CHART

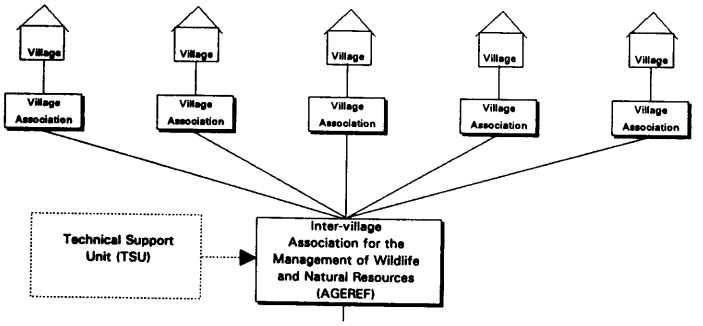
PHASE 1 (Year 1, 2)



PHASE 2 (year 2,3)



PHASE 3 (Year 4-5)



IMPLEMENTATION SCHEDULE

Component	Activity	FY96				FY97				FY98				FY99				FY00			
		Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun
1. Capacity Building																					
	Recruitment of CTA	xxxxxx																			
	Project launch workshop	xx																			
	Construction of CTA offices/equipt. purchase	xxxxxx	xxxxxx																		
	Information campaign re. project objectives and activities	xxxxxx																			
	Identification of CTA village counterparts		xxxxxx																		
	Public awareness campaigns on specific themes e.g. regulating hunting		xxxxxx		xxxxxx	xxxxxx															
	Training equipes mobiles	xx	xxxx																		
	Training village assocns./AGEREF		xxxxxx		xxxxxx	xxxxxx			xxxxxx	xxxxxx			xxxxxx	xxxxxx			xxxxxx				
	Anti-poaching training (forest guards and village teams)		xxxxxx		xxxxxx				xxxxxx				xxxxxx				xxxxxx				xxxxxx
	Specialized training for forestry guards			xxxxxx				xxxxxx				xxxxxx									
	Training of trackers				xxxxxx				xxxxxx												
	Training in specialized tasks e.g. commercialization of forest products							xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx								
	Financial management/accounting training			xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx								
	Training of local people in monitoring techniques		xxxxxx		xxxxxx	xxxxxx															
	Establishment of inter-village coordination committee									xxxxxx											
	Creation of AGEREF																				
	Regional workshops on wildlife management						x				x				x			xxxxxx			
																			x		
2. Land and Wildlife Management/GT																					
	Delimitation of village terroirs and wildlife management zones		xxxxxx																		
	Development of village land use plans		xxxxxx	xxxxxx	xxxxxx	xxxxxx															
	Construction of temporary roads	xx	xxxxxx		xxxxxx	xxxxxx															
	Road maintenance				xxxxxx				xxxxxx				xxxxxx								
	Development and implementation of fire management program				xxxxxx	xxxxxx			xxxxxx	xxxxxx			xxxxxx	xxxxxx			xxxxxx				xxxxxx
	Construction of small dams/water points					xx	xxxx			xx	xxxx			xx	xxxx			xx	xxxx		xxxxxx
	Anti-poaching patrols				xxxxxx	xxxxxx	xxxxxx		xxxxxx	xxxxxx	xxxxxx		xxxxxx	xxxxxx	xxxxxx		xxxxxx	xxxxxx	xxxxxx		xxxxxx
3. Natural Resource Exploitation and Processing																					
	Finalization of cahier des charges		xxxxxx																		
	Agreement on hunting concessions			xxxxxx	xxxxxx			xxxxxx	xxxxxx			xxxxxx	xxxxxx			xxxxxx	xxxxxx			xxxxxx	xxxxxx
	Safari hunting operations				xx	xxxxxx	xx		xx	xxxxxx	xx		xx	xxxxxx	xx		xx	xxxxxx	xx		xx
	Studies on hunting/sale of bushmeat networks			xxxxxx	xxxxxx	xxxxxx	xxxxxx														
	R & D harvesting/commercialization of forest products		xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx								
	Ecotourism activites e.g. bird safaris				xx	xxxxxx	xxxxxx		xxxxxx	xxxxxx	xxxxxx		xxxxxx	xxxxxx	xxxxxx		xxxxxx	xxxxxx	xxxxxx		xxxxxx
4. Monitoring and Evaluation																					
	Satellite imagery purchase	xx				xx				xx				xx							
	Development of monitoring system		xxxxxx	xxxxx														xx			
	Operation of monitoring and evaluation system				xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx
5. Agro-sylvo-pastoral and social infrastructure development																					
	Development and update of village land management plans		xxxxxx		xx	xxxx			xx	xxxx			xx	xxxx			xx	xxxx			xx
	Investment activities		xxxxxx		xxxxxx	xxxxxx	xxxxxx		xxxxxx	xxxxxx	xxxxxx		xxxxxx	xxxxxx	xxxxxx		xxxxxx	xxxxxx	xxxxxx		xxxxxx
6. Supervision																					
	WB supervision missions		xx	xx		xx		xx		xx			xx		xx			xx		xx	

BURKINA FASO AND COTE D'IVOIRE

GEPRENAF

PROJECT SUPERVISION SCHEDULE

1. **World Bank/Cofinanciers/GEF Supervision Input:** The proposed staff input is shown in the Table below for supervision requirements in the two countries. To as great an extent as possible simultaneous supervision missions should be undertaken, with project staff and community leaders participating in the supervision in other sites.

Approx. Date	Activity	Skills	Staff Weeks Burkina Faso	Staff Weeks Cote d'Ivoire
09/95	Project Launch Workshop	TM, Facilitator, Trainer	6	6
12/95	Project Launch Review	TM, Trainer, GT specialist	4	6
05/96	Supervision Mission	TM, Wildlife Specialist, Financial Specialist	3	4
11/96	Supervision Mission	TM	3	5
05/97	Supervision Mission	TM, GT specialist Ecologist	4	6
11/97	Mid-Term Review	TM, Financial Specialist, Ecologist, Sociologist	6	8
05/98	Supervision Mission	TM, Training Specialist, Economist	3	4
01/99	Supervision Mission and Implementation Review	TM, Ecologist, Village Development Specialist	5	8
09/99	Supervision Mission	TM, Biodiversity Specialist, GT Specialist	4	5

BURKINA FASO AND COTE D'IVOIRE

GEPRENAF

STANDARD PROCUREMENT SCHEDULE

1. Preparation of bidding documents and issue of bid notice	15 days before availability of B.D. for sale to bidders
2. Bidding time	not less than 45 - 60 days for ICB and not less than 30 days for other procedures.
3. Evaluation of bids after bid opening	30 days
4. Send award recommendation to the Bank	within 45 days of bid opening
5. Award of contract	within 60 - 90 days of bid opening
6. Signing contract	within 15 - 30 days of Bank's non-objection
7. Send conformed copies of signed contract to the Bank	within 10 days of signing contract
8. Contract administration	Follow up as per provision of contracts

BURKINA FASO AND COTE D'IVOIRE
GEPRENAF
DOCUMENTS CONTAINED IN THE PROJECT IMPLEMENTATION FILE

Note: Documents are listed in reverse chronological order.

(i) FAO, 1994. GEPRENAF - RAPORT DE PREPARATION,

Document Principal: A Burkina Faso, B Cote d'Ivoire
Annexes: A Burkina Faso, B Cote d'Ivoire

I Amenagement de reserves de faune et gestion cynegetique
II Conservation de la biodiversite
III Le contexte socio-economique et territorial
IV Amenagement de la zone agro-pastorale
V Institutions et organisation du projet
VI Legislation
VII Formation
VIII Suivi-Evaluation
IX Indicateurs
X Couts du Projet
XI Analyse financiere et economique

FAO, Rome, 13 Avril 1994

(ii) IUCN, 1994 Memorandum of meeting with World Bank and FAO in Paris in December 1993
Gland, January 1994

(iii) World Bank, 1994
Minutes of NGO Consultation meeting held in Washington on December 21st, 1993.
Washington, January 1994

(iv) FAO, 1993 RAPPORT DE PRE-PREPARATION

Document Principal
Annexes:

I Le contexte socio-economique des zones du projet
II Les systemes de production
III Les ressources naturelles
IV Les institutions et l'organisation du projet
V Les infrastrucures et amenagements

VI Prix, commercialisation et tourisme
VII Analyse financiere et economique
VIII Le cadre legislatif
IX Communication pour l'ecodeveloppement
X Les couts
FAO, Rome, aout 1993.

(v) World Bank, 1993

Public Information Document and Executive Project Summary.
West African Community Conservation and Wildlife Utilisation Project.
Ouagadougou and Washington, November 1993.

(vi) World Bank, 1993

Draft EPS document and ,Minutes of the EPS Review Meeting, October, 1993

(vii) World Bank/FAO, 1993a

Summary of agreements reached during World Bank/FAO/GEF meetings in Rome, September, 1993

(viii) SERA, 1993

Evaluation de l'experience du Ranch de Gibier de Nazinga (Burkina Faso). Periode 1979-199. La Societe d'Etudes et de Realisations Agricoles, Ouagadougou. Juin, 1993

(ix) World Bank/FAO, 1993b

Etapes de la Mission de Preparation et Termes de Reference.
Mars, 1993

(x) Chailan H. 1992

Rapport de Mission d'Identification des problemes poses par le projet Nazinga. UICN, Juin 1992
Plus: " Commentaires relatifs au rapport de mission de M. H. Chailan, par M. Gerard Sournia, UICN Dakar. Septembre 1992.

(xi) Global Environment Facility, 1992

Opinion of Technical Review Panel for West African Game Ranch Extension Project.
Washington, May, 1992.

(xii) AWHDA, 1992a

Identification of four sites for commerical game ranches in west Africa: A report for the World Bank. African Wildlife Husbandry Development Association, Ouagadougou. May 1992

(xiii) AWHDA/ADEFA 1992b

Rapports sommaires d'une mission d'identification des sites pour le ranching de gibier. Cote d'Ivoire et Mali. Association de Developpement de l'elevage de la Faune (AWHDA/ADEFA) Fevrier et Mars, 1992

(xiv) World Bank, 1992

Initial Executive Summary: West African Game Ranching Extension Project.
Washington DC., January 1992

(xv) AWHDA/ADEFA, 1991a

Initial Survey to identify four sites for Game Ranching in West Africa.
Ouagadougou, November 1991

(xvi) Kiss A. and Lungren C. 1991

West African Game Ranch Extension Program.
Proposal for the Global Environmental Facility, Washington, August, 1991

(xvii) AWHDA/ADEFA, 1991b

Introduction to a program to develop and extend game ranching in West Africa.
A proposal for the Board of Directors of ADEFA by C. Lungren, R Lungren and G. Frame.
Ouagadougou, May 1991

BURKINA FASO and COTE D' IVOIRE

GEPRENAF

CONTENTS OF IMPLEMENTATION MANUEL

LISTE DES APPENDICES

APPENDIX II - TERMES DE REFERENCE

Coordinateur National
UICN
Cellule Technique d'Appui
Audit

APPENDIX III. CADRE LEGAL

Revue du Cadre Legal
Statuts-types des Associations Villageoises
Contrat d'exploitation + Cahier des Charges (CTA/AV/Guide de chasse)
Protocole international entre Burkina et Côte-d'ivoire (Seulement la lutte anti-braconnage)
Convention de clarification SODEFOR/Eaux et Forêts*
Projet de Décret de Comité National de Pilotage du Projet
Arrêté et contrat de concession-type

APPENDIX IV - DEMARCHE GESTION DE TERROIR

Demarche GT
Guide de l'organization de l'Information spatiale

APPENDIX V. - GUIDE DES AMENAGEMENTS

Amenagement des aire de gestion de la Faune

APPENDICE VI - ASPECTS SENSIBILISATION ET FORMATION

Sensibilisation à la participation
Formation

APPENDIX VI - ASPECTS SOCIO-ECONOMIQUES

Analyse sociologique
Aspects sociologiques du projet

APPENDICE VIII - GUIDE DU SUIVI ECOLOGIQUE

APPENDICE IX - MODEL DE DOCUMENTS

Passation des Marchés
Décaissement

BURKINA FASO and COTE D' IVOIRE

GEPRENAF

MAPS

Map: IBRD 26011; 26012; 26013