

INTERNATIONAL TROPICAL TIMBER ORGANIZATION

ITTO

PROJECT PROPOSAL

TITLE	CONSERVATION OF AFRICAN BARWOOD (<i>PTEROCARPUS ERINACEUS</i> POIR) IN THE GAZETTED FORESTS OF LA PALEE AND BOUNDIALI IN NORTHERN COTE D'IVOIRE WITH THE PARTICIPATION OF LOCAL COMMUNITIES
SERIAL NUMBER	PD 808/16 Rev.5 (F)
COMMITTEE	REFORESTATION AND FOREST MANAGEMENT
SUBMITTED BY	GOVERNMENT OF CÔTE D'IVOIRE
ORIGINAL LANGUAGE	FRENCH

SUMMARY

The African barwood tree (*Pterocarpus erinaceus* Poir) is a multipurpose tree having a direct role as a source of additional household income. In fact, its technological qualities are such that this timber species is one of the most sought-after in West Africa, much appreciated for cabinet-making, heavy carpentry, outdoor carpentry (Duvall 2008). In addition, African barwood yields a diverse range of non-timber products including food for human consumption, cattle fodder (Petit and Mallet 2001), medicines and raw materials for handicrafts (tannins, dyes, sap, resin, etc.). Given these values, African barwood has been overexploited (fraudulently and illegally), especially during the crisis experienced by the country. In addition, due to a lack of awareness raising about fire risks, certain practices involving the use of fire and resulting in forest fires such as the slash and burn cultivation and livestock transhumance are commonly in use in the region and constitute a serious threat for African barwood.

Despite the importance accorded to this multipurpose species, the country still lacks scientific and technical information to guide specific silvicultural treatments or to assess the current status of natural stands to identify adequate management strategies. It is today essential for Côte d'Ivoire to maintain and increase plant cover for this multipurpose species, which is in danger of extinction. **The Government of Côte d'Ivoire is hereby submitting this project proposal for ITTO funding with a view to preserving this endangered species and restoring the forest cover while addressing poverty in rural areas.**

The project proposal was initially developed for a total budget of US\$828 718, and was subsequently restructured in two phases following the request of ITTO, which announced a pledge of US\$320 000 for Phase I funding.

EXECUTING AGENCY	Forest Development Corporation (<i>Société de Développement des Forêts—SODEFOR</i>)
DURATION	36 months over a duration of 24 months for Phase I and 12 months for Phase II
APPROXIMATE STARTING DATE	Upon funding

PROPOSED BUDGET AND OTHER FUNDING SOURCES	Source	Contribution (US\$)
	Phase I	
	ITTO	320 000
	Government of Côte d'Ivoire	177 982
	Total Phase I	497 982
	Phase II	
	ITTO	246 488
	Government of Côte d'Ivoire	84 248
	Total Phase II	330 736
	Total (Phase I + Phase II)	
	ITTO	566 488
	Government of Côte d'Ivoire	262 230
	GRAND TOTAL	828 718

PROJECT BRIEF

➤ Existing situation and problem to address

The gazetted forests of Palée and Boundiali which are the subject of this submission are located in the Northern Area of Côte d'Ivoire, more specifically in the Bagoué area with Boundiali as regional capital. The project area is full of young people who are jobless school drop-outs or demobilized from the military.

Forests of the North used to have large stands of African barwood. This is the original distribution area for this timber species. However, nowadays this species is threatened with extinction. The main causes of this threat are the overexploitation of the species, its low rate of regeneration and repeated bushfires.

Overexploitation of the species (*Pterocarpus erinaceus* Poir)

The selective removal of certain high-quality timber species poses a serious threat to the country's plant genetic resources. African barwood is a forest tree species found essentially in the northern part of Côte d'Ivoire, beyond the 8th parallel, where the Government of Côte d'Ivoire has banned forest logging. Because of its high value, African barwood is heavily used, both by forest logging operators and local communities.

Logging interests have turned to African barwood (*Pterocarpus erinaceus* Poir), locally known as *vêne*, as forest tree species found in natural forests and used for reforestation have been depleted.

African barwood (*Pterocarpus erinaceus* Poir) is therefore in strong demand and the transport of truckloads of illegal *P. erinaceus* timber products is in constant increase. Because of its technological qualities, African barwood features among the best timber species in West Africa and it is highly sought for cabinet-making, heavy carpentry and exterior joinery work (Duvall, 2008). In addition, African barwood is used for its various non-timber products, including animal fodder (Petit et Mallet, 2001), medicinal products and raw materials for craftwork (tannins, sap, resin, etc.).

Almost the entire volume available of this timber species is being logged and exported by foreign companies with the complicity of village communities, in the form of roughly debarked logs or poorly shaped beams. This is due to the lack of consultations between stakeholders.

In 2013, Côte d'Ivoire exported close to 3,500 m³ of beams from commercial timber (mostly *P. erinaceus*) of which only 500 m³ were legally logged (Paulina Zidi, 2013). Conversely, nearly 3,000 m³ were illegally logged.

The ignorance of sustainable management practices by the communities has also put pressure on this resource base and made it vulnerable. Indeed, this timber species is popular with people for their food supply, as fodder material for cattle (Petit and Mallet, 2001), for therapeutic purposes, handicrafts (tannins, dyes, sap, resin, etc.) and for cooking (fuelwood). While these growing needs are in line with the population growth rate, there have been no conservation measures undertaken for the species.

Low rate of regeneration for this species

Despite the acknowledged significance of this multipurpose species, the country lacks scientific and technical information to guide silvicultural practices and set relevant silvicultural standards. Furthermore, no study is available on the current status of natural stands to establish adequate management strategies. The few available references generally concern the description of natural stands in the West African sub-region (Glele et al., 2008; Ouedraogo et al., 2006; Sokpon et al., 2006; Camara, 1997; Cuny et al, 1997; Louppe et al., 1994; Louppe and Ouattara, 1993).

No form of regeneration of this wild species has been studied compared with other species such as shea (*Vitellaria paradoxa*) or locust bean (*Parkia biglobosa*) (Kossi et al., 2010). Highly sought by loggers for its different uses, the target species is characterized by its low germination rates in the wild (Kossi et al., 2010).

Repeated bushfires

In the northern region of Côte d'Ivoire, which is the original distribution area of African barwood, the communities comprise farmers and pastoralists who use fire as a means of clearing and renewal of the pasture. Due to the lack of awareness of fire risks, such practices are widespread and bushfires have become recurrent.

Indeed, with slash and burn shifting cultivation, farmers set fire to several hectares per day for the development of their plantations.

As a result, some young woody plants (seedlings, sprouts, suckers) that emerge during the rainy season are reduced to ashes in the dry season that follows. This makes regeneration of forest woody plants almost impossible.

Even the most fire-resistant species need a few years free from fire for them settle successfully. Fire annihilates or reduces the growth rate of the most hardy species and even destroy adult trees having fire-sensitive bark.

As for pastoralists and stockmen, they set fire to the bush during the dry season to renew pastures. This practice helps to feed the livestock during the period with young shoots of vegetation. But more often than not these poorly controlled practices cause huge bushfires.

To mitigate the impacts of bushfires on vegetation and prevent the destruction of natural resources, awareness-raising campaigns targeting relevant stakeholders will be conducted and wildfire control committees will be set up to patrol the risk areas throughout the dry season.

Given these causes, it is necessary to demonstrate that the extinction of this species will have dire consequences both socio-economically and environmentally.

Indeed, the communities will no longer benefit from this species for their food and therapeutic needs; in the long term it could cause the disruption of their production system and jeopardize the adaptability of these people to their environment; as to industrial units, they will no longer be stocked; amounts of revenue will diminish for operators, the timber industry and the communities.

At the environmental level, we expect to see the depletion of biodiversity and the reduction of the forest cover, as well as the impacts of climate change.

The project was initially developed for a total budget of US\$828 718, and was subsequently restructured in two phases following the request of ITTO, which announced a pledge of US\$320 000 for Phase I funding during the 58th Session of the International Tropical Timber Council (ITTC).

➤ Project objectives

Development objective: “To contribute to the sustainable management of forest ecosystems in Côte d’Ivoire”

Specific objective: “To conserve African barwood in the gazetted forests of La Palée and Boundiali, in the Bagoue région in Northern Côte d’Ivoire”.

Beneficiaries, expected outcomes and main outputs expected

Communities in the vicinity of gazetted forests

The local communities surrounding the two gazetted forests are the prime project beneficiaries through the following outcomes expected from the project:

- the reforestation of **180** hectares with African barwood;
- the reforestation of 50 hectares with fuelwood species (for sustainable availability);
- the redistribution of revenue through the implementation of forest work outsourced to [local communities] to alleviate poverty and improve local livelihoods;
- African barwood is used as fodder for livestock, medicinal plants and raw materials for handicraft production (tannins, dyes, sap, resin, etc.);
- **46 ha (20% of 230 ha surface)** of land are made available to the communities through the *Taungya* agroforestry system associating subsistence crops to forest saplings) during the duration of the project.

SODEFOR

Impacts for SODEFOR can be summarized as follows:

- the control and harnessing of *Pterocarpus erinaceus* regeneration and silviculture;
- the rehabilitation of degraded gazetted forests through reforestation;
- reduced rate of clearing through the support provided by the communities to the project.

All these actions will have a positive impact on the ecological and climate balance in the area. This will contribute to the achievement of forest conservation and protection by SODEFOR.

The Ministry of Water & Forests

- The rehabilitation of forest resources through the reforestation of degraded areas.
- The positive financial impact on forest and agricultural products: felling taxes, “income taxes on industrial units” (corporate tax), export quotas.

Wood craftsmen and timber industrialists

The handicraft sector and timber industrialists will benefit from a sustainable supply of raw material in both the medium- and long-term perspective for the manufacturing of tannins, dyes, sap, resin, balafon, tam-tam, etc.

Outcomes expected at project completion

By project completion:

- **180 ha** planted with African barwood using the Taungya system
- 50 ha planted with fuelwood species using the Taungya system
- Income of communities raised:
 - ✓ women's groups have entered into contracts for setting up nurseries and seedling production against remuneration;
 - ✓ young people groups have implemented reforestation contracts against remuneration;
 - ✓ bushfire control committees have been set up and are operational;
 - ✓ households own and are familiar with improved stoves and use them;
 - ✓ the communities participate in the conservation of African barwood;
 - ✓ studies and trials carried out have secured African barwood regeneration techniques.

Main expected outputs **from project Phase I and Phase II**

Output 1: The processes of African barwood propagation are understood and mastered

Output 2: The use of African barwood is sustainable and under control

Output 3: Bushfire events are under control

Project implementation

Project Phase I and Phase II will be executed by the Korhogo Management Center (*Centre de gestion de Korhogo*), having in its remit the management of the two selected gazetted forests, and the University of Korhogo. The Management center is subdivided into forest management units, one for each gazetted forest. The project team will consist of a project manager, two assistants (1 head forestry unit managing both gazetted forests and 1 research fellow from the University), an accountant and one secretary. Some work will be subcontracted to local communities located in the vicinity of the two gazetted forests and the research work will be carried out by the University of Korhogo.

➤ **Project sustainability**

- ✓ By project completion date, SODEFOR will continue managing the African barwood and fuelwood plots whose harvesting rotation is five years.
- ✓ SODEFOR will take over and continue maintaining the **180 ha** of established tree stands and implement the required silvicultural treatments. The Korhogo Management Center and the forest management unit, which manage both forests, will incorporate the monitoring of activities in their daily programmes, as they did during project implementation.
- ✓ The University of Korhogo will continue researching African barwood and other forest species in close collaboration with SODEFOR.

➤ **Assumptions and risks**

- Social and political stability in Côte d'Ivoire;
- Commitment of all stakeholders;
- Receptivity among local communities;
- Seeds harvested for planting in the nursery are available and of high quality;
- Prolonged drought during the dry season.

- **Cost of project: US\$828 718, including ITTO: US\$566 488 and Côte d'Ivoire: US\$262 230**

LIST OF ABBREVIATIONS AND ACRONYMS

- APVA: Plant and animal production assistant (*Assistant des Productions Végétales et Animales*)
- ASP: Production assistant (*Assistant de Production*)
- CPF: Farmers-Forest Commission (*Commission Paysans – Forêt*)
- CPFN: National Farmers-Forest Commission (*Commission Paysans – Forêt Nationale*)
- DPN: Nature Conservation Directorate (*Direction de la Protection de la Nature*)
- FMU: Forest Management Unit
- IEF/ W&F Ing.: Water & Forest Engineer (*Ingénieur des Eaux et Forêts*)
- ITF: Forestry Technology Engineer (*Ingénieur des Techniques Forestières*)
- ITTA: International Tropical Timber Agreement
- ITTO: International Tropical Timber Organization
- MPVA: Trainer in Plant and Animal Productions (*Moniteur des Productions Végétales et Animales*)
- NGO: non-governmental organization
- PDF: *Forest Master Plan* (Plan Directeur Forestier)
- PEF: Water and Forest Officer (*Préposé des Eaux et Forêts*)
- PSF: Forest Sector Programme (1991-1996)
- SODEFOR: Forest Development Corporation (*Société de Développement des Forêts*)

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PART 1: PROJECT CONTEXT

1.1 Origin

African barwood is a forest tree species found essentially in the northern part of Côte d'Ivoire, beyond the 8th parallel, where the Government of Côte d'Ivoire has banned forest logging. Because of its high value, African barwood is heavily used both by forest logging operators and local communities.

Logging interests have turned to African barwood (*Pterocarpus erinaceus* Poir), locally known as *vêne*, as forest tree species found in natural forests and used for reforestation have been depleted.

The demand is very high and illegal truckloads of *P. erinaceus*-derived timber products keep increasing. In fact, its technological qualities make this species one of the best timber species in West Africa, much appreciated in cabinet-making, structural carpentry, exterior carpentry and joinery (Duvall 2008). Also, African barwood is used for a range of non-wood products including livestock fodder (Petit and Mallet 2001), medicines and raw materials for handicrafts (tannins, dyes, sap, resin, etc.). In 2013, Côte d'Ivoire exported nearly 3,500 m³ of commercial value beams made of this timber species (mainly *P. erinaceus*) of which only 500 m³ have been legally harvested (Paulina Zidi 2013).

Almost all of this timber is logged and exported by foreign companies with the complicity of villager communities, solely in the form of roughly debarked logs or poorly shaped beams.

Local people use African barwood trees to meet their own needs. Tree bark is used for medicinal purposes. African barwood is considered as a high-heat capacity timber and used by households as fuelwood. As a nitrogen-fixing plant, it contributes to enhancing depleted agricultural land with nutriment. In addition, the tree sap is used by craftsmen to dye loincloths, called "indigo-loin loincloths".

The tree foliage is used as nutritious fodder for farm animals. Its fruits look like garlic cloves and are consumed by animals in particular.

In spite of the value and significance of this multipurpose timber species, the country has no sufficient scientific and technical information that could guide appropriate silvicultural treatments for the species. Furthermore, no study is available on the current status of natural stands to develop adequate management strategies. No form of regeneration of this timber species naturally occurring in the wild has been studied compared with other species such as shea (*Vitellaria paradoxa*) or locust bean (*Parkia biglobosa*) (Kossi et al. 2010). Highly sought by loggers for these various uses, the target species is characterized by its low germination rates in the wild. Human pressure on this forest-genetic resource and the degradation of natural conditions make it all the more vulnerable.

In this light, the survival of this timber species of high socio-economic value, both for local and native communities, is under threat and requires special attention.

To achieve sustainable utilization, it would be essential to conserve and "domesticate" African barwood as current conservation measures for this species are inadequate and inefficient (FAO 2001a). In addition, the development and management of the species would draw added value from the marketing of produced timber, while controlling the reduction of the forest cover.

The foregoing considerations justify the urgency of this study on *P. erinaceus* natural stand dynamics which are under excessive logging pressure in Côte d'Ivoire. That is why the Government of Côte d'Ivoire submits the project described below to ITTO for approval and funding.

The project was approved under Category 1 during the 54th meeting of the ITTO Expert Panel in 2019; it was subsequently revised and resubmitted in 2021 after being lapsed in that same year. Following the 58th Session of the ITTC held 7-11 November 2022, the project was partially funded for an amount of US\$320,000 with the recommendation of restructuring the project in two phases.

1.2 Relevance

1.2.1 – Conformity with ITTO objectives and priorities

This project proposal is in full conformity with ITTO objectives and priorities identified in Article 1 of ITTA, 2006, with regards to the following:

a) In relation to the objectives of ITTA, 2006

ITTO is one of the major international organizations addressing the sustainable management and conservation of forests. Its aim is to promote conservation, rehabilitation and the sustainable management of forests for the benefit of the world community and specific communities living in the vicinity of forests.

From this perspective, this project is in line with the ITTO objectives as set out in **Article 1 of the ITTA, 2006** in its paragraphs **c, f, j, m, q and r**, which state:

c. “Contributing to sustainable development and poverty alleviation”: Farmers will implement forestry work for remuneration (seedling production, soil preparation, planting, tending). These financial resources, which are additional, will allow them to meet their primary needs, thereby alleviating poverty affecting them. The establishment of tree plantations for fuel wood production will yield an abundant supply of fuel wood, and avoid the time-wasting tasks of firewood search and collection by women for cooking food.

Reforestation of 230 ha (50 ha of fuelwood, 180 ha of African barwood) in degraded areas will make it possible to rehabilitate degraded lands and enrich the soil with leguminosae in addition to supplying the communities with fuelwood.

f. “Promoting and supporting research and development with a view to improving forest management and efficiency of wood utilization and the competitiveness of wood products relative to other materials, as well as increasing the capacity to conserve and enhance other forest values in timber producing tropical forests”: The project will review the actions to be undertaken during the project implementation phase to restore and sustainably manage the gazetted forests of Côte d’Ivoire. It will facilitate the updating of information on African barwood to optimize the publication and dissemination of such information to relevant, efficiency-oriented international organizations. It is expected to make a diagnosis and to establish a monitoring and evaluation system for the management of development sequences.

j. “Encouraging members to support and develop tropical timber reforestation, as well as rehabilitation and restoration of degraded forest land, with due regard for the interests of local communities dependent on forest resources”: Through appropriate surveys and studies, this project will assess current identified forest potentials. It will assess the opportunities for reforesting degraded areas, creating buffer zones for the establishment of fuelwood and construction timber plantations, in line with the needs and interests of local communities.

m. “Encouraging members to develop national policies aimed at sustainable utilization and conservation of timber producing forests and their genetic resources and to maintain the ecological balance in the regions concerned, in the context of tropical timber trade”: Numerous management plans are either lacking or not updated. Through the implementation of this project, mutual consultations among stakeholders -- local communities, municipal and policy authorities and the Forestry Administration, etc. --, will take place to initiate a project that will provide forest management tools for the sustainable conservation of biodiversity, genetic resources and will sustain the ecological functions of this particular ecosystem.

r. “Encouraging members to recognize the role of forest-dependent indigenous and local communities in achieving sustainable forest management and develop strategies to enhance the capacity of these communities to sustainably manage tropical timber producing forests”: To collectively organize the local, forest-surrounding communities into forestry cooperatives and to assign them forest work for remuneration: Once these communities understand that protecting forests can mean an influx of financial resources, they will protect what they have planted themselves, and this is the beginning of sustainable, participatory forest management.

Moreover, this project proposal is fully consistent with the objectives and priorities of ITTO as identified in the 2013-2018 Strategic Action Plan, in that it:

- Builds the conservation and sustainable use of biodiversity in tropical timber producing forest through the building of local capacities of forest communities in controlling bushfires (3) and by improving conservation and management of protected areas with increased monitoring of forests affected by the project (3).

The establishment of fire control committees is a way to control fire and to raise awareness about the use of fire/burning.

- Slows down deforestation and forest degradation in the tropical world and adds value to the ecosystem services through the establishment of 200 ha of forest plantations and through the extension of modern bushfire control methodologies (4).

The establishment of 50 ha of fuel wood is to slow down deforestation of natural woodlands and the rehabilitation of a rotational resource base for fuel wood production.

b) In relation to ITTO Priorities

The project is also consistent with strategic priorities 1, 3, 4, and 5 set out in the ITTO Action Plan, 2013-2018, and titled as follows:

- Strategic priority 1: **Promote good governance and enabling policy frameworks for strengthening SFM and related trade and enhancing SFM financing and investment.**

- Strategic priority 3: **Enhance the conservation and sustainable use of biodiversity in tropical timber producing forests.** The prime objective of the project to be derived from this project (*sic*) is the conservation and sustainable use of forest biodiversity.

- Strategic priority 4: **Reduce tropical deforestation and forest degradation and enhance the provision of environmental services.** The actions of the project will help reduce the pressure by the communities on mangrove forests.
- Strategic priority 5: **Improve the quality and availability of information on tropical forests, forest product markets and trade.** The implementation of studies planned under the project will generate reliable information on both gazetted forests.

1.2.2. Relevance to the submitting country's policies

In 1999, through the letter statement by the Government, a New Forest Policy (NPF) was adopted in accordance with the Master Plan for Forestry (PDF 1988-2015).

The strategies developed in the NPF are based, inter alia, on the following actions:

- To promote a rural landscape strategy best reconciling the development imperatives of agriculture, pastoralism and forestry for the optimal benefit of the local communities concerned;
- To concentrate development efforts on specific forest areas by combining the improvement of natural stands in the richest areas and reforestation to rehabilitate the most degraded areas;
- To incorporate environmental considerations in forest management.

This project for the restoration and sustainable management of gazetted forests, for which this project has been developed, is part of the National Development Plan (**PND 2021-2025**), the only reference framework for all development actions in Côte d'Ivoire. Under this PND, the Government of Côte d'Ivoire is committed to providing the communities with a healthy environment and adequate living conditions by seeking the following sectoral impacts:

- Impact 1: The management of the Forestry Sector is transparent, participatory and efficient;
- Impact 2: The various ecosystems are restored and the management of natural resources has improved.

Therefore this project is consistent with the **National Policy Strategy for the Conservation, Rehabilitation and Extension of Forests 2019-2030** of the Ministry in charge of Forests, where the urgency of the restoration and sustainable management of gazetted forests in the Northern area was highlighted.

Furthermore, this proposal aims to contribute to the restoration and sustainable management of Northern gazetted forests to improve the living standards of local communities, and as such it is in compliance with the **New Forestry Code adopted** by the State of Côte d'Ivoire **through Law N° 2014-675 of 23 July 2019**. This new forest law aims in its article 2 **“To conserve and add value to biological diversity and to contribute to the balance of forest ecosystems and other associated ecosystems through the incorporation of farming, forestry, fisheries, hunting, pastoralism and mining activities”** and to **“promote the active participation of local communities in the sustainable management of forest resources to improve their income and living conditions, by incorporating, in forestry, their individual and collective rights derived from customs”**.

1.3 Target area

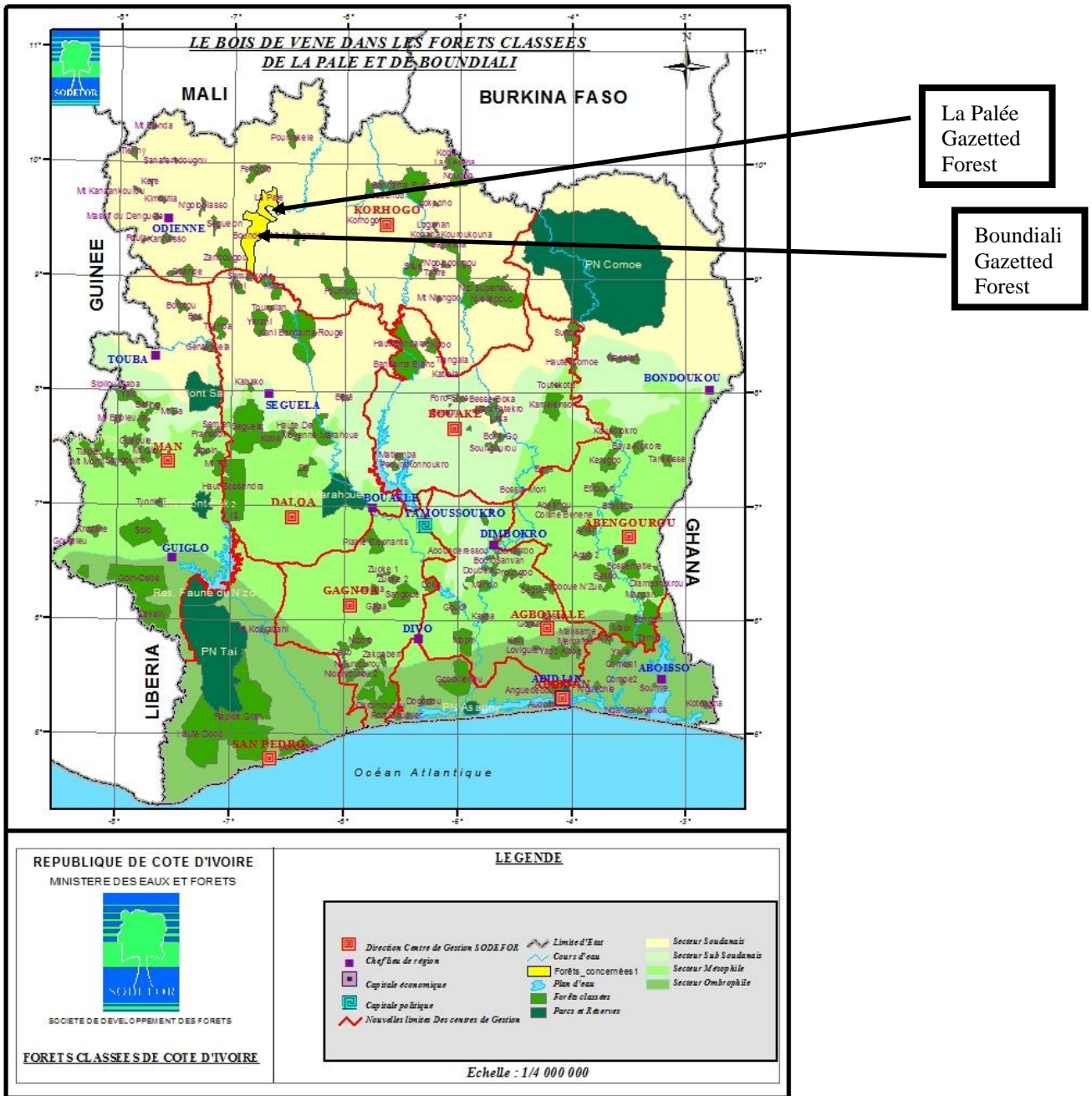
1.3.1 Geographic location

The project covers two (2) gazetted forests in the Bagoué area, more precisely in the Korhogo Management Center, as follows:

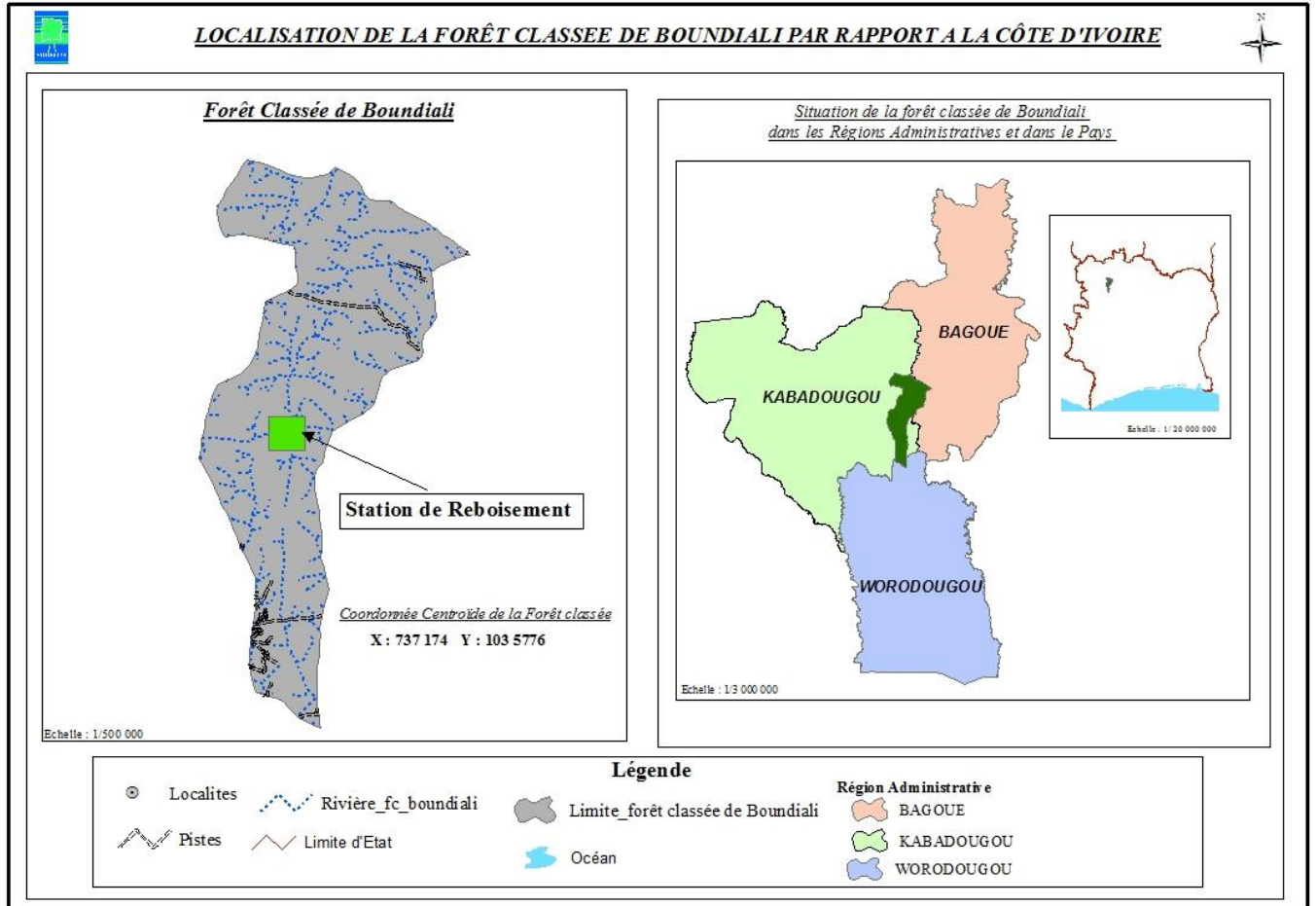
Forests	Land Areas (in ha)
BOUNDIALI Gazetted Forest	78,000
PALÉE Gazetted Forest	45,000
TOTAL	123,000

- Geographic location of project gazetted forests

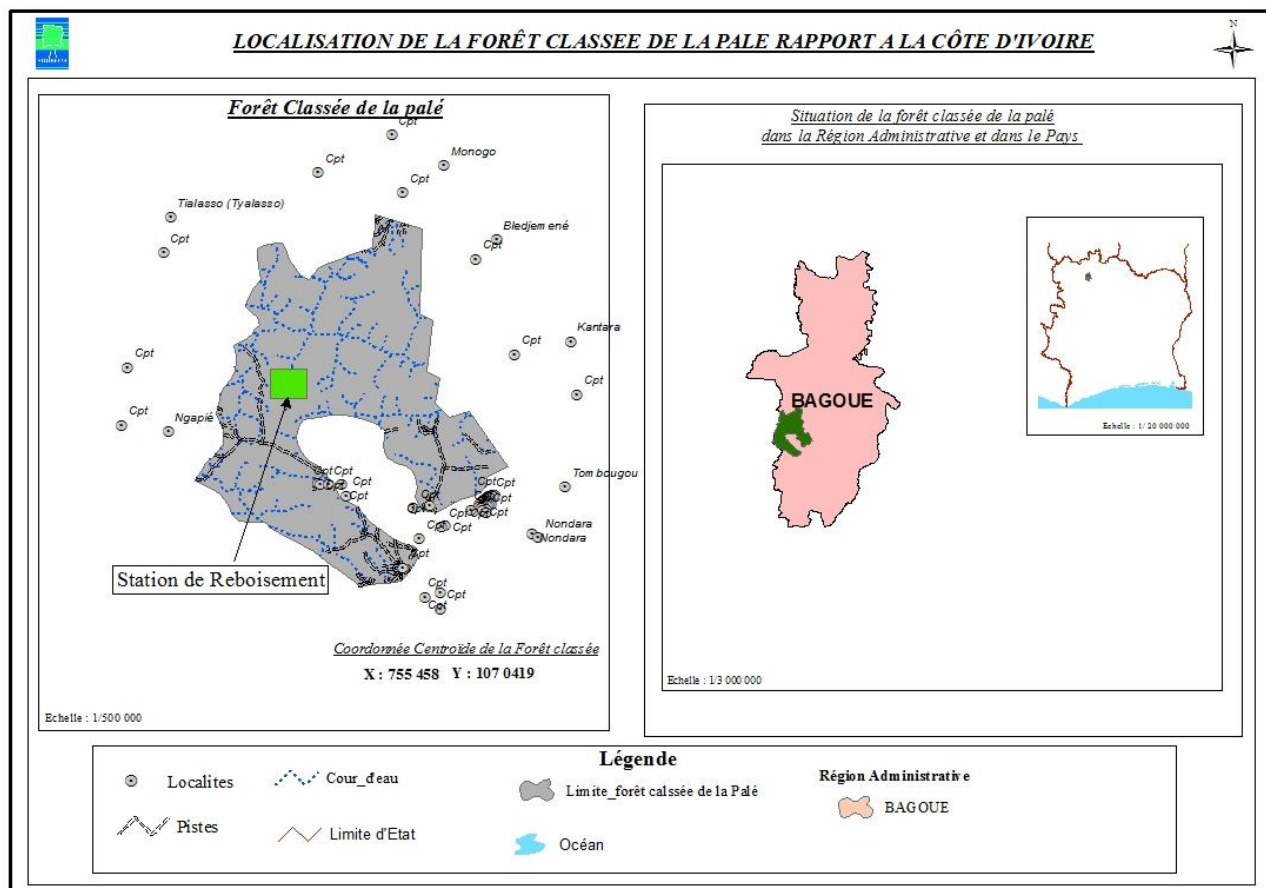
African barwood in the Palée and Boundiali Gazetted Forests



Location Map of the Boundiali Gazetted Forest, in relation to Administrative Areas and Côte d'Ivoire



Location Map of La Palée Gazetted Forest, in relation to the Bagoué Administrative Area and Côte d'Ivoire



Characteristics of the project area

The two gazetted forests are located in the region of Bagoué, having Boundiali as regional capital, some 800 kilometres from Abidjan (the economic capital), 96 km from Korhogo, 180 km from Odienné and 600 km from Yamoussoukro (capital policy). It is an area covered by grassland, dotted with a few clear forests and gallery forests.

Climate, topography and soil

The climate is described as "Sudanese" and is that of a tropical dry savannah classified as Type As (Köppen climate classification). This is a hot climate characterized by a long dry season from October to May and a rainy season marked by two rainfall maxima, one in June and one in September. There are on average 77 days of rain per year in the Boundiali department, total annual precipitation levels ranges from around 1300 to 1500 mm. Temperatures vary little within the 21°C to 35°C range. In May, the air temperature is around 32°C. In January and February, the coldest month, the Harmattan, a powerful hot dry wind blowing from the Sahara considerably lowers the temperature, however, it is still around 20°C. Sometimes sand storms from the Mali desert reach the area and cover it with a thin layer of ochre dust. Agricultural activities, including rice cultivation, which constitute the bulk of economic activity of the department, are highly dependent on rainfall and its annual distribution.

Vegetation

The vegetation of the department, like that of the whole region, is a western Sudanese savannah type. It is characterized by trees of height between 8 and 12 m and scattered shrubs making a cover density of the order of 25 to 35 %. The administrative region (*Département*) is home to five gazetted forests: that of *Niangboué* (14,800 ha), that of *Palée* (38,900 ha), *Boundiali* (51,900 ha), that of *Fengolo* (188 ha) and that of *Nyangbou* (62 ha). Therefore the vegetation of the Palée gazetted forest consists of grassland dotted with open woodlands and the Boundiali gazetted forest consists of savanna parkland. Iroko trees occur there, together with Mahogany, Teak, African barwood, "Flamboyants" (*Caesalpinaceae*), Baobab, Cashew, African locust bean (*Parkia biglobosa*), Shea, etc.

Relief

On flat terrain dotted with inselbergs, located 421 metres above sea level, two "mountains" (a term actually used by locals) surround the city of Boundiali. They are of volcanic origin and constitute the geological results of the Guinean dorsal line of mountains culminating at Mount Nimba to 1752 metres. One of them is home to caves that were once used as a refuge in times of invasion, according to local oral tradition reported by S  noufo griots.

Towards Odienn   near Madinani, about thirty kilometres from Boundiali, lies a mountain range whose highest point reaches 894 metres which is part of the Dengu  l   highlands.

Population

Communities living around the two gazetted forests consist mostly of farmers and stockmen. Indigenous peoples are the SENOUFU and MALINKE.

These communities are composed of farmers engaging in slash and burn practices and stockmen burning pastures during the dry season to promote the renewal of pasture foliage and grass grazed by livestock. There blows the Harmattan -- a dry, cold wind from the Sahara which dries up the grass and makes the vegetation wither.

The Boundiali Prefecture had **127,684 inhabitants in 2014**. The population of Boundiali, consisting mainly of the Senufo and Malinke groups is 95 per cent animist.

Demographic trend in the <u>Boundiali Prefecture</u>				
<u>1955</u>	<u>1975</u>	Rec. <u>1988</u>	Rec. <u>1998</u>	Est. <u>2014</u>
92 000	96 884	127 847	155 789	<u>127 684</u>
Census maintained from 1955 : No double counting of population				

In 1998 the Boundiali Prefecture included the Tingr  la city area and has a total population of 155 789 inhabitants. Following the new administrative division in 2011, Tingr  la city became a full-fledged prefecture. As a result the total population of the Boundiali Prefecture decreased to 127 684 inhabitants.

Population of the Boundiali <i>Prefecture</i> - <u>2014</u> census			
Men	Women	Sex ratio	Total population
<u>65 679</u>	<u>62 002</u>	<u>105.9%</u>	<u>127 684</u>
These figures are for all communities: villages and townships			

Source: National Institute of Statistics (INS)

Farming activities

Community members are either farmers or stockmen if they are neither traders nor civil servants because the Senufo country enjoys very favourable climate and soils for agriculture, especially through the existence of numerous mounds that lead to improved soil productivity. The economic mainstay of this administrative region is the agri-food sector.

Dabas (*) are used by a large female workforce: men take charge of clearing and ploughing, and women outplant rice sprouts and harvest rice ears, they also harvest cotton.

Farmed commodities are:

- Cotton, until recently, was the only cash crop to be grown at an industrial scale, 40-50 per cent of land used through CIDT policies which consisted in distributing free seeds and fertilizers to farmers and charging high prices. Following the disinvestment of the government sector from the cotton industry of C  te d'Ivoire, the IPS (WA) consortium and the Paul Reinhart Ag Company established the corporation *Ivoire Coton* on August 23, 1998, which owns two cotton ginning plants in Boundiali, each having a processing capacity of 70,000 tons / year: Boundiali 1 and Boundiali. Cotton is the main source of wealth in the region, to the point of it being referred to as "white gold". Today, the mango and cashew nut

productions are sources of income that can complement cotton. Indeed, these two industrial crops have become serious competitors for cotton because the latter quality problem creates frustration in the farming world.

- Subsistence crops, including maize (20 per cent), peanuts (10 per cent), rice, cassava, millet, sorghum, sweet potatoes, cowpeas, fonio and yam are used for local consumption.

1.3.2 Cultural, socio-economic and environmental aspects

Socio-economic aspects

The scarcity of fertile land due to demographics and increased savannah zone has led SODEFOR to practise *Taungya* agriculture with rural people. Through this system, cleared land is made available on which for three years, they will be able to establish food crops together with planting forest trees.

The strategy implemented by SODEFOR emphasizes the partnership between the forestry administration and farmers who can increase their acreage and crop yields while contributing to the sustainable management of forest resources.

Malaria, jaundice, dysentery are very common diseases in the project area. The roots and the bark of certain tree species are used to treat these diseases and therefore these tree species are under pressure. Such is the case of *Lannea barteri*, *Entada abyssinica*, *Terminalia glaucescens*, *Cochlospermum planchonii*, *Cassia sieberiana*, *Combretum micranthum*, *Sarcocephalus latifolius*, *Pseudocedrella Kotchii*, *Khaya senegalensis*.

The involvement of communities in the management of forests is a major asset because it leads them to handle forest resources as a common good. Furthermore, this choice is also consistent with the policy to alleviate rural poverty by allocating income-generating forestry activities to the communities.

School dropouts and women, who are fragile segments of the rural population, shall take an active part in forestry work (site preparation, seedling production, hole digging (pitting), planting, monitoring and maintenance) and the establishment of the *Taungya* system. This will enable them to derive incomes that can improve their living conditions.

As cottage industry, many weavers process cotton fibres into pieces of fabric and dressmakers use the fabric to produce tunics, loincloths and clothing of any types for customer demand; tailoring here has been an activity mostly practiced by men.

(* Translator's note: a digging hoe. "A *daba*, a rudimentary, even primitive tool: a handle about 50 cm long with an iron blade at the end. A peasant's basic tool that can be made and displayed even by blacksmith's apprentices" – in *Time and Temporality in Intercultural Perspective* by Douwe Tiemersma, Henk Oosterling.
Picture:

http://img.over-blog-kiwi.com/300x300/1/23/45/53/20141102/ob_d837d8_cimg4142.JPG

Environmental aspects

Trees in general play an important role in the process of restoring physical and chemical properties of the soil:

- They provide organic matter to the soil (roots and litter), essential for some of its biological activities.
- Their crown is an umbrella shading the ground from other aggressive climate factors (wind, rain). Thus, trees help control soil loss by water and wind erosion.
- Tree roots systems raise mineral ash contents of soil to the surface, otherwise inaccessible to crop roots and also increase soil porosity.
- Within their immediate vicinity, trees create a microclimate favourable to biological activity of the soil and contribute to the gradual restoration of its fertility.

Forest plantations that will be established, in addition to the features mentioned above, will have a positive impact on the environment because they act as carbon sinks for anthropogenic carbon emissions. Their foliage absorbs greenhouse gases content of the atmosphere and release oxygen, which helps cope with the threats of climate change.

In addition to these benefits, forest plantations in the northern part of Côte d'Ivoire serve as a screen to the Harmattan cold and dry winds during the dry season, and therefore they help prevent the drying up of the atmosphere and the spread of diseases such as meningitis.

1.4 Outcomes expected at project completion

By project completion:

- Knowledge on low-cost regeneration of African barwood as well as native knowledge of African barwood are inventoried and capitalized upon through the dissemination of communication material;
- The communities are made aware of the low-cost plant propagation methodologies; innovative technological applications will be proposed and their significance for the communities specified in relation to other plant propagation strategies;
- The suckering induction tests will assess the occurrence of suckers in the species, the influence of wound or cut and root diameter on the ability to produce suckers, the influence of light on the ability to produce suckers, etc.;
- The seedling production mechanisms using “cuttings from root segments” are documented and enhanced, especially the success rate and diameter class, the behaviour of seedlings (development stage, growth rate) and the existence or absence of a polarity (such as in stem cuttings) are specified;
- The benefits and drawbacks (including costs) have been compared, and low-cost and efficient innovating technical procedures for regeneration are widespread; local communities themselves can regenerate African barwood without the services of nurseries which often only offer non-native forest species and propagation techniques farmers cannot afford;
- 50 ha of the degraded forest areas in the Palée and Boundiali forests have been reforested using the species *Cassia siamea* in order to meet the demand for fuelwood, (possibly with a number of shea trees and locust bean trees). Note that 1 ha of *Cassia siamea* produces 300 cubic metres or 450 50-kg bags of charcoal. With the reforestation of 50 hectares of plantations, 22,500 bags of charcoal or 15,000 cubic metres of wood are expected to be produced to meet fuel wood needs;
- **180 ha** of forest plots in the Palée and Boundiali gazetted forests have been established using African barwood and teak trees for demonstration purposes. Based on results, large plots could be reforested to meet the timber demand. This reforestation work will promote the establishment of a timber processing plant, which will generate the creation of direct jobs and the installation of carpenters to manufacture furniture and also for craftsmen to produce woodcraft objects (masks, balafon, traditional music instruments, etc.).
- 20 per cent of land cleared by SODEFOR are made available to the communities for the production of food crops (maize, sorghum, yam, fonio, millet) under the *Taungya* system (combination of food crops and forest seedlings). With this system, forest seedlings are maintained together with the crops, which increases the success rate of the former as well as that of crop production. Thus, people see their gains increase.
- Income levels of the communities have improved: women's groups have implemented the contractual work setting up the nursery; youth groups have completed their contractual work for site preparation, reforestation and maintenance. By so doing, the project has alleviated poverty around the two gazetted forests.

To sum up:

- At least 20 productive clones are produced;
- At least 80 per cent of African barwood stands are preserved;
- At least 5 to 10 per cent of African barwood stands have increased

PART 2: RATIONALE AND OBJECTIVES

2.1 *Rationale*

2.1.1 Institutional setup and organizational issues

Under this project, SODEFOR's partner is the University of KORHOGO and the NGO called Korhogo Rural Facilitation (*Animation Rurale de Korhogo—ARK*).

- SODEFOR will act as the executing agency of this project through the Korhogo Management Center, more specifically two FMUs, which are the operational structures for the protection and rehabilitation of forests. These are the Korhogo FMUs which manage the gazetted forests of PALEE and BOUNDIALI. The SODEFOR is responsible for establishing the 250 ha-plantations and for providing assistance to the local populations to which work will be subcontracted (planting, tending and surveillance). It also ensures the collaboration with all stakeholders (University of Korgoho and NGO).

- Local populations: they will be organized into groups or cooperatives. They will carry out forestry work and will participate in forest surveillance.

- The University of Korhogo: Its role is to conduct research. In close collaboration with SODEFOR, the university will implement studies and establish a rootstock orchard to conduct plant production and/or regeneration processes (both sexual and asexual). It will also develop a scheme for monitoring the reforested plots.

- Korhogo Rural Facilitation (ARK) NGO: It will be responsible for raising the awareness of the communities and for training households in the construction of improved fire stoves.

2.1.2 Stakeholder analysis

○ Primary stakeholders

Communities in the vicinity of local gazetted forests consist mostly of farmers growing perennial crops, food crop farmers and livestock raisers practicing transhumance. These are the primary stakeholders of the project.

Farmers of subsistence crops

They use forest land as production ground for their crops and sources of supply for construction material. They are the prime destroyers of forests through their outdated cultivation methods. Under this project, they will be organizing themselves into cooperatives for the execution of forestry and monitoring work.

Farmers of subsistence crops

They use forest land as crop-growing ground and sources of supply for construction material. They are the prime destroyers of forests through their outdated cultivation methods. Under this project, they will be organizing themselves into cooperatives for the execution of forestry and monitoring work.

During this work, cleared land will be granted to farmers to install food crops or cotton along forest seedlings. By maintaining their crops, farmers will also be maintaining the forest plantation in exchange for, on the one hand, and also use the forest products as additional added values.

Livestock farmers practicing transhumance

They heavily depend on forest in the conduct of their trade because of the continual mobility of herds in the forests searching for abundant food. Moreover, in times of drought they resort to bush fires to facilitate the movement of herds and also to renew foliage of *Poaceae* or grasses for their cattle. It should be stressed that transhumant herders and nomadic pastoralists are major destroyers of gazetted forests in those areas. Awareness of these stakeholders to be promoted by the project and the installation of signboards banning the passage of herds in certain areas could deter livestock farmers.

○ **Secondary Stakeholders**

Craftsmen:

They also depend on forests for their livelihoods because they use wood for manufacturing objects (tannins, dyes, sap, resin).

Timber industrialists:

They own large plants using timber as raw material. They constitute the perfect motive for the overexploitation of timber resources, which will soon not be able to meet their needs since we can already note [in]adequacies between their large-sized processing tools and small-diameter timber.

Logging businesses:

They carry out logging activities to supply timber industries. Timber industries are very demanding on both the quality and quantity of timber supply. This drives logging companies' operations into protected forest areas where logging is banned and where the most valuable species are selected by loggers who are very apt to identify them.

SODEFOR

The reconstruction of the forest resource base through afforestation of degraded areas will have a positive impact on the ecological balance and climate of the area. The availability of fuel wood will drastically reduce the pressure on gazetted forests. Income generated from subcontracting work will encourage communities to become more involved in the management and protection of forest areas.

University Peleforo Gon Coulibaly in Korhogo

Through this project, the University will establish a rootstock orchard, which will lead to the asexual propagation of African barwood trees. Through phenotype analysis, they will assess genetic variability within and between populations of the species. BA's, MA's and PhD-level students will have appropriate subject matters to enhance their knowledge of *Pterocarpus erinaceus* timber. This will enable the university to have a reliable database on the propagation and behaviour of the species assessed.

Korhogo Rural Facilitation (ARK) non-governmental organization

It will be responsible for raising the awareness of the communities and for training households in the construction of improved fire stoves.

o Tertiary stakeholders

Under this project, state institutions involved are: ANADER, the Ministry of Water and Forests, and the Ministry of Economy and Finance.

ANADER

The National Agency for Support to the Development of Rural Areas will assist SODEFOR with the provision of crop seeds and awareness-raising activities.

Ministry of Water and Forests

The Ministry of Water and Forests represents the State. It will supervise and control the project activities.

Through this project, the Ministry of Water and Forests will benefit from the significant financial impact on forest products: felling taxes, income taxes on industrial units, export quotas. These resources will help strengthen the State treasury and provide counterpart funding for the conservation and protection of gazetted forests.

The Ministry of Economy and Finance

The Ministry of Economy and Finance provides financial supervision and is responsible for making available the Cote d'Ivoire counterpart funds for the project. The Ministry will therefore confirm the good use of project funds through the various actions to be carried out both environmentally and socially.

STAKEHOLDERS GROUPS	CHARACTERISTICS	PROBLEMS, NEEDS, INTERESTS	POTENTIAL	INVOLVEMENT IN PROJECT
Primary Stakeholders				
<i>Farmers of perennial crops</i>	Depend on forests for their livelihoods Establish large areas of perennials and/or cash crops (cotton, cashew)	Insufficient financial resources Practice extensive agriculture (slash and burn, shifting cultivation)	Local knowledge Organize themselves into cooperatives or groups to perform forestry work	Primary project beneficiaries - Establish and grow food crops for their own supply. - Implement reforestation in plots for a cost - Establish plots of cashew crops (wooded fuel breaks) and share the profits

Farmers of subsistence crops	Dependent on forests for their livelihoods Establish small-sized parcels of food crops for their own supply or for marketing (rice, millet, sorghum, yams)	Lack of financial resources Practice extensive agriculture (slash and burn shifting cultivation)	Local knowledge Organize themselves into cooperatives or groups to perform forestry work	Primary project beneficiaries - Establish and grow food crops for their own supply. - Establish reforestation plots in exchange for payment
Livestock farmers practicing transhumance	Depend on forests for their activities Constantly move their herds in search of fodder on forest lands	Lack of financial resources Practice extensive farming Often use fire as tools of their trade	Local knowledge	Primary project beneficiaries
Secondary Stakeholders				
Craftsmen	Depend on forest products for their livelihoods	Lack of financial resources Their supply is threatened	Use small joinery tools and equipment	Secondary project beneficiaries
Timber industrialists	Own sawmills and use timber as raw material	Their supply is threatened	Sawing equipment inadequate to small-diameter logs Major job providers	Secondary project beneficiaries
Logging operators	Harvest timber	Their source material is threatened	Knowledge of harvestable tree species	Secondary project beneficiaries
SODEFOR	Executes the mission of conserving and rehabilitating gazetted forests in collaboration with local communities	Lack of financial resources for: - Restoring degraded gazetted forests - Protecting reforestation work from fire	Experience in the management of gazetted forests and the implementation of projects	Executing agency
University of Korhogo	Conducts independent research and development work	Lack of financial resources to fund forestry research	Experience in the area of forestry research Students available for the various briefs to prepare and research work to perform	Agency collaborating to the implementation of the project
Korgoho Rural Facilitation NGO (ARK)	Raise awareness of populations and provide guidance in forest protection and best sustainable management practices	Lack of funds for field work	Permanently in contact with populations Good communication skills	Contributes to project success through awareness-raising and training activities
Tertiary stakeholders				
National Agency for Support to the Development of Rural Areas (ANADER)	- Provides guidance and support to the agricultural sector - Structure responsible for the supervision and	- Collaborates with SODEFOR when required - Expand their involvement in the	- Sound command of technical agricultural knowledge and techniques to improve agriculture management efficiency	- Contributes to project success through awareness raising of communities and provision of agricultural seeds

	extension of new agricultural techniques	development of agroforestry		
Ministry of Water and Forests	Represents the State	Develops and implements Government's policies in forestry	Experience in forest management and project implementation Experience in monitoring and evaluation of forestry projects	Monitoring and supervision structure
Ministry of Economy and Finance	Provides financial supervision	Provides counterpart funding to jointly funded projects	Benefits from taxes on timber logging and sales	Contributes to project success by making funds available

2.1.3 Problem Analysis

African barwood is endangered. This threat is due to the illegal overuse of the tree species, its low rate of regeneration and repeated bushfires.

Illegal overexploitation of the tree species

Because of its technological qualities, African barwood is in strong demand both among the communities and the timber industry. Indeed, African barwood is used and overexploited by loggers to supply industrial timber processing plants. Furthermore, the absence of forest administration in the north of the country during the crisis experienced by the country has encouraged overexploitation of the species.

Almost the entire volume available of this timber species is being logged and exported by foreign companies with the complicity of village communities, in the form of roughly debarked logs or poorly shaped beams. This is due to the lack of consultations between SODEFOR and the communities.

In 2013, Côte d'Ivoire exported close to 3,500 m³ of beams from commercial timber (mostly *P. erinaceus*) of which only 500 m³ were legally logged (Paulina Zidi, 2013). Conversely, nearly 3,000 m³ were illegally logged.

The ignorance of sustainable management practices by the communities has also put pressure on this resource base and made it vulnerable.

This timber species is used by the people for their food supply, as fodder material for cattle (Petit and Mallet 2001), for therapeutic purposes, handicrafts (tannins, dyes, sap, resin, etc.) and for cooking (fuelwood). While these growing needs are in line with the population growth rate, there have been no conservation measures undertaken for the species.

Low species' capacity for propagation

Despite the acknowledged significance of this multipurpose species, the country lacks scientific and technical information to guide silvicultural practices and set relevant silvicultural standards. Furthermore, no study is available on the current status of natural stands to establish adequate management strategies. The few available references generally concern the description of natural stands in the West African sub-region (Glele et al. 2008; Ouedraogo et al. 2006; Sokpon et al. 2006; Camara 1997; Cuny et al. 1997; Louppe et al. 1994; Louppe and Ouattara 1993).

No form of regeneration of this wild species has been studied compared to other species such as shea (*Vitellaria paradoxa*) or locust bean (*Parkia biglobosa*) (Kossi et al. 2010). Highly sought by loggers for its different uses, the target species is characterized by its low germination rates in the wild (Kossi et al. 2010).

Repeated bushfires

In the northern region of Côte d'Ivoire, which is the original distribution area of African barwood, the communities comprise farmers and pastoralists who use fire as a means of clearing and renewal of the pasture. Due to the lack of awareness of fire risks, such practices are widespread and bushfires have become recurrent.

Indeed, with slash and burn shifting cultivation, farmers set fire to several hectares per day for the development of their plantations.

As a result, some young woody plants (seedlings, sprouts, suckers) that emerge during the rainy season are reduced to ashes in the dry season that follows. This makes regeneration of forest woody plants almost impossible.

Even the most fire-resistant species need a few years free from fire for them to settle successfully. Fire annihilates or reduces the growth rate of the hardiest species and even destroy adult trees having fire-sensitive bark.

As for pastoralists and stockmen, they set fire to the bush during the dry season to renew pastures. This practice helps to feed the livestock during the period with young shoots of vegetation. But more often than not these poorly controlled practices cause huge bushfires.

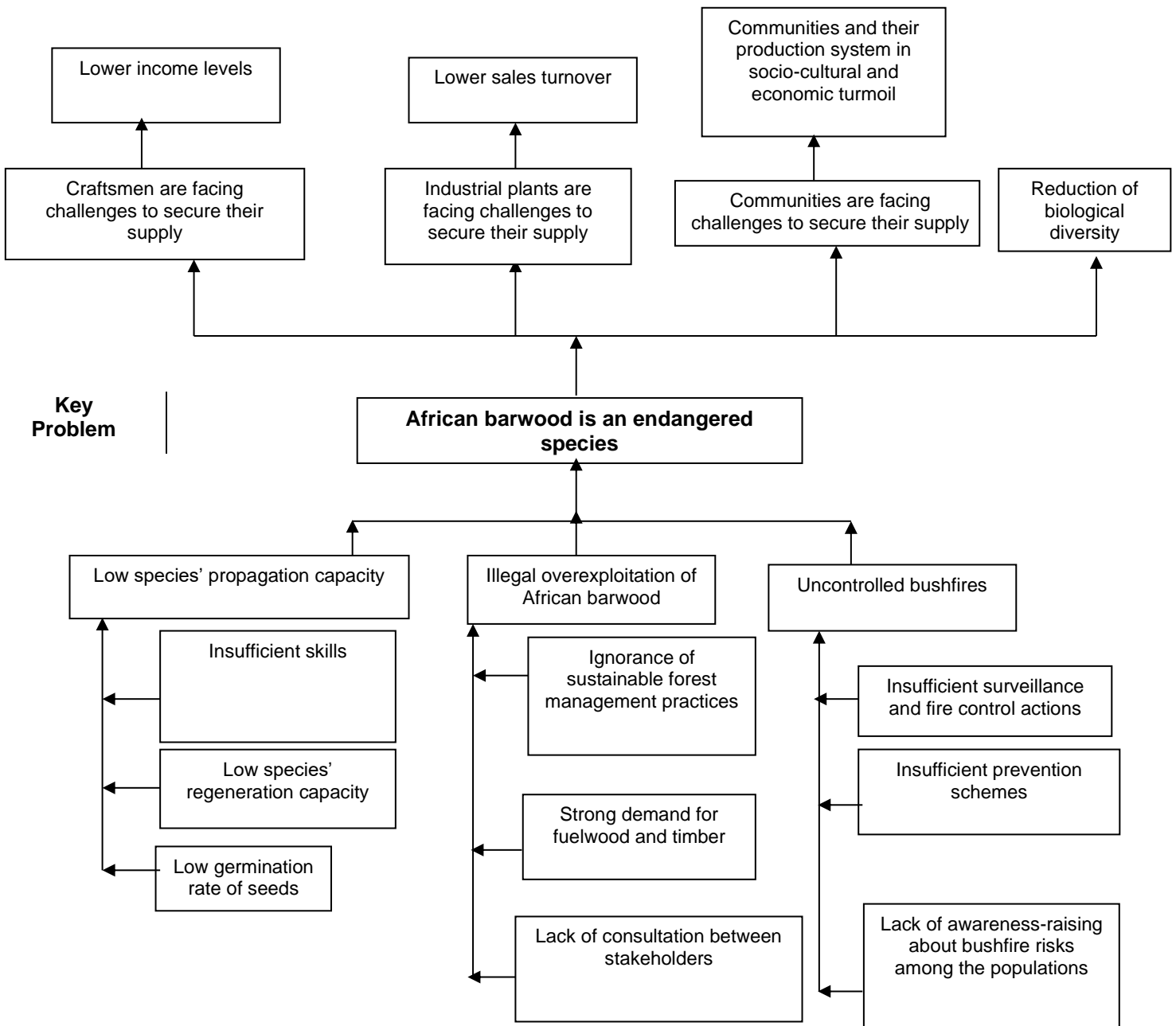
To mitigate the impacts of bushfires on vegetation and prevent the destruction of natural resources, awareness-raising campaigns will be conducted and wildfire control committees will be established to patrol the areas at risk throughout the dry season. However, since the crisis period, the number of surveillance actions has decreased and wildfires have caused damages every year.

Given these causes, it is necessary to demonstrate that the extinction of this species will have dire consequences both socio-economically and environmentally.

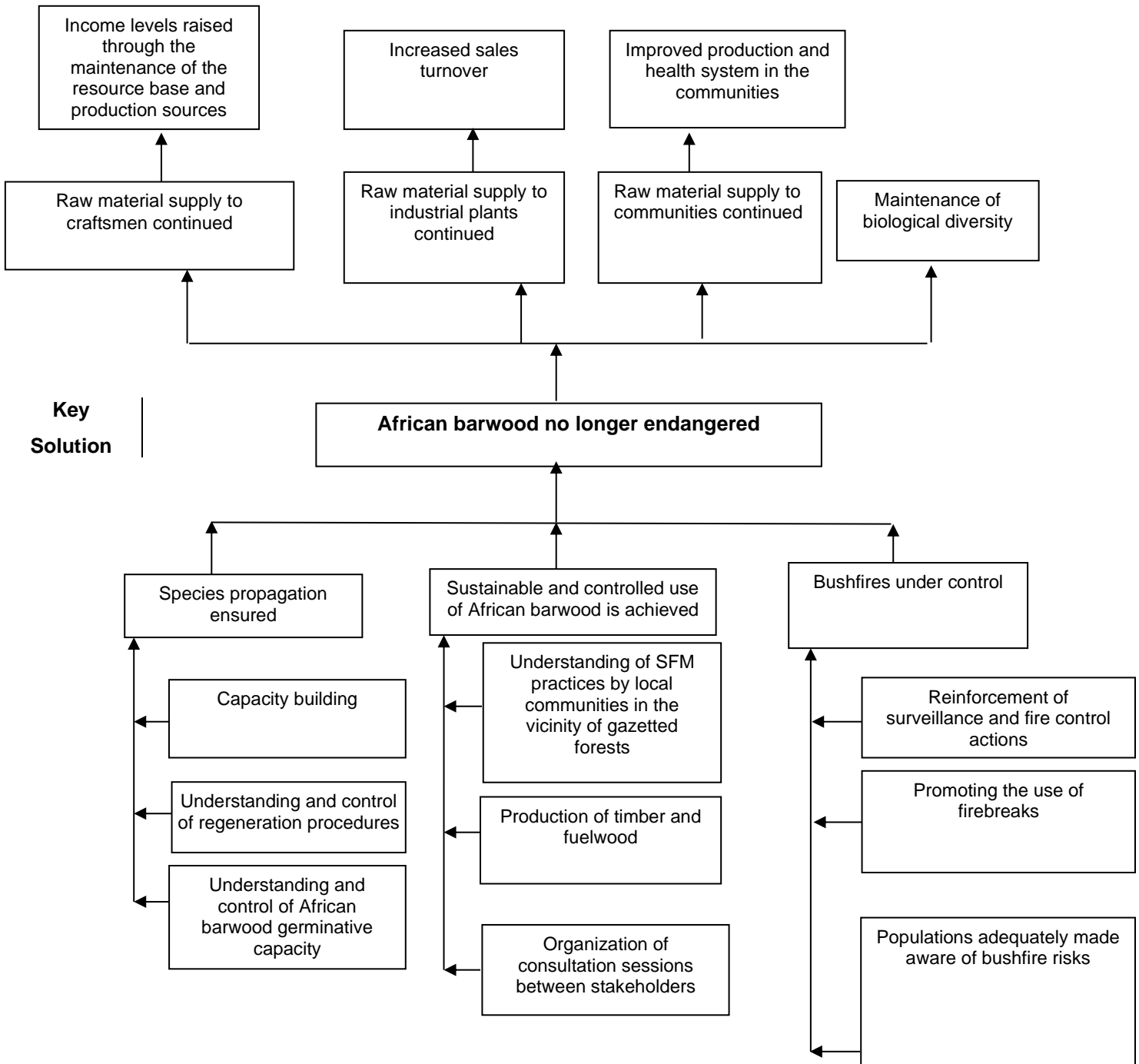
Indeed, the communities will no longer benefit from this species for their food and therapeutic needs; in the long term it could cause the disruption of their production system and jeopardize the adaptability of these people to their environment; as to industrial units, they will no longer be stocked; amounts of revenue will diminish for operators, the timber industry and the communities.

At the environmental level, we will witness the reduction of biodiversity and the reduction of forest cover as well as the negative impacts of climate change.

PROBLEM TREE



OBJECTIVE TREE



Key Solution

2.1.4 Logical framework matrix

Project strategy	Objectively verifiable indicators	Means of verification	Key assumptions
Development objective To contribute to the sustainable management of African barwood ecosystems in Côte d'Ivoire	Conservation rate of African barwood ecosystems increased Land areas reforested with African barwood increased in the Poro area (Korhogo)	- Forestry statistics - Study report	Socio-political stability of countries
Specific Objective: To conserve African barwood within the Palée and Boundiali gazetted forests, in the Bagoué region, Northern Côte d'Ivoire	By project completion: - At least 20 productive clones are produced; - At least 80% of African barwood stands are preserved; - At least 5 to 10% of stands of African barwood have increased	- Maps of land plots - Field visit report - Inventory report - Certificate of acceptance of work - Progress reports	Commitment of all stakeholders to project
Output 1: Propagation procedures for the African barwood species are understood and mastered	At the end of project Year 1: - The 0.5-ha rootstock tree orchard has been established. - The 1-hectare clone orchard has been established - At least 80% of trained forest officers have understood and mastered germination trials and tests. At the end of project Year two, 80% of the best clones identified are transplanted to plantations.	- Field visit report - Certificate of work acceptance - Training report - Progress reports	High quality seeds are available
Output 2: The use of African barwood is sustainable and under control	At the end of project Year 1: - A consultation committee including all stakeholders is established; - A participatory management plan for African barwood is produced and implemented; At the end of the second year: - At least 80% of crop and livestock farmers understand sustainable management practices and implement them; - At least 50% of trained households use improved stoves for cooking; - 70 hectares of demonstration plantations established (35 ha established in the Boundiali gazetted forest and 35 ha established in the Palée gazetted forest) - 156,800 African barwood/teak seedlings have been produced and planted under the Taungya system in each forest - 20 hectares of fuelwood forest plantations established in the degraded areas under the Taungya system in each gazetted forest - 31,108 seedlings of <i>Cassia siamea</i> have been produced and planted in degraded areas under the Taungya system (yam, fonio, sorghum, peanut) in each forest At the end of project Year 3: - 110 hectares of demonstration plantations established (55 ha established in the Boundiali gazetted forest and 55 ha established in the Palée gazetted forest) - 246,400 African barwood/teak seedlings have been produced and planted under the Taungya system	- Work contracts - Work acceptance certificates - Progress and monitoring reports - Field visit report - Survey report - Progress reports	Local communities receptive

	<p>- 30 hectares of fuelwood forest plantations established in the degraded areas under the <i>Taungya</i> system in each gazetted forest</p> <p>- 46,662 seedlings of <i>Cassia siamea</i> have been produced and planted in degraded areas under the <i>Taungya</i> system (yam, fonio, sorghum, peanut) in each forest</p>		
<p>Output 3: Bushfires are under control</p>	<p>At the end of project Year 1:</p> <ul style="list-style-type: none"> - 4 fire surveillance and control committees have been established and are operational. <p>At the end of project Year 2:</p> <ul style="list-style-type: none"> - At least 80% of crop and livestock farmers from local villages understand sustainable crop and livestock raising practices and implement them; - At least 40 trained committee members understand and master fire control techniques <p>Each year, at least 6 fire surveillance patrols are organized by each committee during the long dry season.</p> <p>Each year, identified fire sources are brought under control;</p> <p>At the end of project Year 2 at least 2 km of firebreaks have been established around plantations</p> <p>At the end of project Year 3 at least 80% of the stands of forest plantations are protected against fire</p>	<ul style="list-style-type: none"> - Records of Committees formation procedures - Training report - Progress reports - Field visit report 	Prolonged drought

2.2 Objectives

2.2.1 Development objective and impact indicators

Development objective: "To contribute to the sustainable management of African barwood ecosystems in Côte d'Ivoire in the Bagoué Region" through:

- the decrease in the degradation rate of African barwood ecosystems
- the increase of the land areas reforested with African barwood in the Boundiali and Korhogo Prefectures.

2.2.2 Specific objective

Specific objective: "To conserve African barwood within the Palée and Boundiali gazetted forests, in the Bagoué region, Northern Côte d'Ivoire" through:

- the implementation of trials and experimental studies based on the establishment of a 0.5 ha rootstock orchard and a 1 ha clone orchard;
- the establishment of African barwood forest plots over **180 ha** in both gazetted forests;
- the establishment of fuelwood plots over 50 ha in both gazetted forests;
- the organization of bushfire surveillance patrols by four surveillance committees.

PART 3: DESCRIPTION OF PROJECT INTERVENTIONS

3.1 *Outputs and activities*

3.1.1 **Outputs**

Expected outputs from project Phase I and Phase II implementation are as follows:

Output 1: Propagation procedures for the African barwood species are understood and mastered;

Output 2: The use of African barwood is sustainable and under control;

Output 3: Bushfires are under control.

3.1.2 **Activities**

To achieve expected project outputs, the following activities will be carried out in two phases PHASE I

Output 1: Propagation procedures for the African barwood species are understood and mastered

Activity 1.1: Implement studies to understand and master the species' regeneration process

Input: Students of the University of Korhogo, SODEFOR, lecturer researchers for guidance and supervision

Activity 1.2: Conduct tests on species' germination

Input: Students of the University of Korhogo, SODEFOR, lecturer researchers for guidance and supervision

Activity 1.3: Build the capacities of SODEFOR officers

Input: Students of the University of Korhogo, SODEFOR, lecturer researchers for guidance and supervision

Output 2: Sustainable and controlled use of African barwood is achieved

Activity 2.1: Undertake information, education and communication campaigns on SFM practices

Input: NGO, SODEFOR

Activity 2.2: Organize consultation sessions among stakeholders

Input: Project team, SODEFOR

Activity 2.3: **Establish 70 ha of mixed plantations combining African barwood and teak, and 20 ha of fuelwood (*Cassia siamea*) using the Taungya system**

Input: SODEFOR, coordinator and his team, work subcontracting to local communities

Output 3: Bushfires are under control

Activity 3.1: Conduct awareness-raising campaigns on bushfire risks for communities

Input: SODEFOR, NGO

Activity 3.2: Reinforce fire surveillance and control

Input: SODEFOR, fire surveillance and control committees

Activity 3.3: Promote the use of firebreaks

Input: SODEFOR + fire-fighting tools (pails, machetes, boots, bicycles, etc.), fire surveillance and control committees

PHASE II

Output 1 : Propagation procedures for the African barwood species are mastered

Activity 1.2: Conduct tests on species' germination

Input: Students of the University of Korhogo, SODEFOR, lecturer researchers for guidance and supervision

Activity 1.3: Build the capacities of SODEFOR officers

Input: Students of the University of Korhogo, SODEFOR, lecturer researchers for guidance and supervision

Output 2: Sustainable and controlled use of African barwood is achieved

Activity 2.1: Undertake information, education and communication campaigns on SFM practices

Input: NGO, SODEFOR

Activity 2.2: Organize consultation sessions among stakeholders

Input: Project team, SODEFOR

Activity 2.3: Establish 110 ha of mixed plantations combining African barwood and teak, and 30 ha of fuelwood (*Cassia siamea*) using the Taungya system

Input: SODEFOR, coordinator and his team, work subcontracting to local communities

Output 3: Bushfires are under control

Activity 3.1: Conduct awareness-raising campaigns on bushfire risks for communities

Input: SODEFOR, NGO

Activity 3.2: Reinforce fire surveillance and control

Input: SODEFOR + fire-fighting tools (pails, machetes, boots, bicycles, etc.), fire surveillance and control committees

Activity 3.3: Promote the use of firebreaks

Input: SODEFOR + fire-fighting tools (pails, machetes, boots, bicycles, etc.), fire surveillance and control committees

3.2 Implementation approaches and methods

Project Phase I and Phase II main activities will be coordinated by SODEFOR, researchers from the University of Korhogo and local communities.

Project Phase II funding should be discussed with ITTO during project Phase I implementation with a view to making it effective before project Phase I completion and allowing undertaken activities to be continued.

The strategy developed in this project is structured around six components, namely studies and tests on African barwood, the establishment of a rootstock orchard (*stool park*), capacity building of researchers and SODEFOR staff, afforestation under the *Taungya* system, subcontracting of forestry work, diversification of energy sources, the protection of forests against fires in partnership with local communities.

- **Studies on the asexual propagation of African barwood trees**

This is to enhance the local knowledge and farmers' practices through supportive research; to generate practical results and scientific hypotheses on asexual propagation.

- **Germination trials on African barwood species**

These trials will be initiated during the first year at the beginning of the rain season.

- **Root suckering induction trials and testing of Cuttings of Root Segments (CRS)**

The project team assisted by students will conduct in-situ root suckering induction trials (using root cuts or wounds) and test cuttings of root segments in nursery environment. We will monitor the initial growth of seedlings achieved by these processes by comparing it to that obtained from seeding trials initiated in nurseries on the same dates.

- **Establishment of a rootstock orchard**

A 0.5 ha rootstock orchard will be established in collaboration with SODEFOR and the University of Korhogo.

- **Establishment of a clone orchard**

A 1 ha clone orchard will be established in collaboration with SODEFOR and the University of Korhogo.

- **Establishment of forest plots for demonstration**

180 hectares of forest plots will be established in African barwood combined with teak in both project gazetted forests (90 hectares in the Palée gazetted forest and 90 hectares in the Boundiali gazetted forest).

The project will also establish plantations over 50 hectares with *Cassia siamea* in both project gazetted forests (25 hectares in the Palée gazetted forest and 25 hectares in the Boundiali gazetted forest).

The project team and the university will monitor the plantations to identify potential issues or delayed growth in seedlings, and take corrective actions/draw lessons.

Above reforestation operations will be conducted based on the methods of the Taungya system.

The Taungya system is the association of food crops (maize, yam, sorghum, fonio, peanut) with forest seedlings (African barwood, teak, *Cassia siamea*). **20% ha of arable land (i.e., 36 ha)** in both gazetted forests will be made available to the local populations organized into groups to establish subsistence crops along forest seedlings. By using this technique, maintenance costs will be reduced, as by tending their crops, farmers will also maintain the forest seedlings.

The following information is presented for illustrative purposes.

Planting densities and maintenance / tending schedule

	Teak	African barwood	African barwood / Teak	Cassia / Acacia
Density (seedlings/ha)	1 000	600	1 600	1 111
Tending A1	2	2	2	2
Tending A2	3	3	3	3
Tending A3	3	3	3	3

Production of seedlings

Species	Land areas to be established (ha)	Seedling production
African barwood /Teak (1 600 seedlings/ha)	180	403 200
<i>Cassia siamea</i> /Acacia (1 111 seedlings/ha)	50	77 770
Total	230	480 970

Surface area of plantations to be established by year and gazetted forest (GF)

Species GF	Year 1/2 (ha)		Year 3 (ha)		Total (ha)
	African Barwood/Teak	Cassia/Acacia	African Barwood/Teak	Cassia/Acacia	
Palée	35	10	55	15	115
Boundiali	35	10	55	15	115
Total	70	20	110	30	230

▪ Subcontracting of forestry work

Two training courses will be conducted, i.e. one training course for either gazetted forest in order to operationalize the groups. Each course will involve at least 20 participants, organized into groups, for a 5-day period. The project will therefore train 40 local community members in forestry work.

SODEFOR officers will train at least 40 people to forestry work techniques (prepare land, produce seedlings, planting and tending).

Trained local populations organized into groups will perform forestry work (land preparation, planting, tending) based on subcontracting contracts.

Women will be in charge of filling up the seedling bags and setting them up in the nursery. Three types of forest seedlings will be produced: African barwood, teak and *Cassia siamea*. Using the Taungya system, food crops (maize, sorghum, yam peanut) will be associated with forest seedlings over 2 or 3 years.

Young people will be in charge of land preparation, reforestation and plot tending.

The above work will be remunerated, thus providing additional revenues as well as the provision of land over a 2-3 year duration for planting the food crops.

- **Energy-saving measures**

The main source of energy is firewood. As part of sustainable management practices, the populations will be educated about and made aware of the use of improved stoves that consume little wood and of the manufacture of improved stoves using black clay from pond or backwater.

Thirteen village communities surrounding the Boundiali gazetted forest and 11 villages bordering the Palée gazetted forest will be made aware, and **119 households** will be trained in the construction of improved stoves. These awareness-raising and training activities will be conducted by the Korhogo Rural Facilitation NGO (ARK).

- **Bushfire control strategy**

The results of the ITTO project on the management of the forest fires in Côte d'Ivoire [PD 51/98 Rev.1 (F)] show that the protection of forests against wildfire must be socially inclusive, with all stakeholders working together to plan, implement and evaluate preventive and active fire control strategies.

Forest fire prevention should not be the concern of a single structure, where governmental or non-governmental, stakeholders individually cannot carry out efficient management of bushfires.

Therefore, the project will involve local communities in the protection of forests against fires to ensure the success of the project. This project is therefore in line with the project on the management of forest fires in Côte d'Ivoire: [PD 51/98 Rev.1 (F)].

Consequently, to enhance bush fire control, the following actions will be undertaken:

- Raising awareness of local communities;
- Establishment of 4 community-based fire control committees comprised of 10 people each for the surveillance of reforestation areas and of experimental plots (2 committees by gazetted forest);
- Training of the Committees;

Three (3) awareness-raising and training sessions will be conducted by SODEFOR officers.

These training sessions will focus on the techniques to control wildfires, which can be summarized in two phases:

- A phase of prevention (creation and maintenance of bare and wooded fire breaks, equipping fire control committees with firefighting equipment such as backpack fire-pumps, boots, machetes, etc.)
- A phase of active firefighting and fire suppression action in cases of fire outbreaks.

3.3- Work Plan

3-3.1- Phase I work plan

PROJECT OUTPUTS/ACTIVITIES	PARTY IN CHARGE	YEAR 1				YEAR 2			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Output 1: Propagation procedures for the African barwood species are mastered									
Activity 1.1: Implement studies to understand and master the species' regeneration process	Korhogo University researchers								
Activity 1.2: Conduct tests on species' germination	Korhogo University researchers								
Activity 1.3: Build the capacities of SODEFOR officers	Project team + Korhogo University								
Output 2: The use of African barwood is sustainable and under control									
Activity 2.1: Undertake information, education and communication campaigns on SFM practices	Korhogo Rural Facilitation (ARK) NGO								
Activity 2.2: Organize consultation sessions among stakeholders	Project team								
Activity 2.3: Establish 70 ha of mixed plantations combining African barwood and teak, and 20 ha of fuelwood (<i>Cassia siamea</i>) using the Taungya system	Subcontracting to local communities								
Output 3: Bushfires are under control									
Activity 3.1: Conduct awareness-raising campaigns on bushfire risks for communities	Project team								
Activity 3.2: Reinforce fire surveillance and control	Subcontracting to surveillance committees								
Activity 3.3: Promote the use of firebreaks	Subcontracting to local communities								

3.3.2- Phase II work plan

PROJECT OUTPUTS/ACTIVITIES	PARTY IN CHARGE	YEAR 3			
		Q1	Q2	Q3	Q4
Output 1: Propagation procedures for the African barwood species are mastered		■	■	■	■
Activity 1.2: Conduct tests on species' germination	Korhogo University researchers	■	■	■	■
Activity 1.3: Build the capacities of SODEFOR officers	Project team + Korhogo University	■	■	■	■
		■	■	■	■
Output 2: The use of African barwood is sustainable and under control		■	■	■	■
Activity 2.1: Undertake information, education and communication campaigns on SFM practices	Korhogo Rural Facilitation (ARK) NGO	■	■	■	■
Activity 2.2: Organize consultation sessions among stakeholders	Project team	■	■	■	■
Activity 2.3: Establish 110 ha of mixed plantations combining African barwood and teak, and 30 ha of fuelwood (<i>Cassia siamea</i>) using the Taungya system	Subcontracting to local communities	■	■	■	■
		■	■	■	■
Output 3: Bushfires are under control		■	■	■	■
Activity 3.1: Conduct awareness-raising campaigns on bushfire risks for communities	Project team	■	■	■	■
Activity 3.2: Reinforce fire surveillance and control	Subcontracting to surveillance committees	■	■	■	■
Activity 3.3: Promote the use of firebreaks	Subcontracting to local communities	■	■	■	■

3.4 Budget

3.4.1 Project Budget – Phase I

3.4.1.1 Master budget schedule (Phase I)

Outputs/Activities	Description	Component	Quantity		Units	Unit costs US\$	Total cost US\$	ITTO		Executing Agency	
			Year 1	Year 2				Year 1	Year 2	Year 1	Year 2
Output 1	Propagation procedures for the African barwood species are mastered										
A.1.1	Implement studies to understand and master the species' regeneration process										
	Conduct survey on traditional knowledge	30	2		mission	2000	4 000	4000			
	Conduct inventory on existing regeneration processes	30	2		mission	2000	4 000	4000			
A.1.2	Conduct tests on species' germination										
	Conduct suckers induction trials and cuttings	20	6		trial	1 000	6000	6 000			
	Establish rootstock orchard	20	0,5		ha	1 000	500	500			
	Establish clone orchard	20	1		ha	2 000	2 000	2 000			
	Consultant (supervision of surveys, trials, inventory, etc.)	10	8	8		500	8 000	4 000	4 000		
	1 decametre	40	1		unit	30	30	25			5
	1 measuring tape	40	1		unit	80	80	66			14
	1 Criterion dendrometer	40	1		unit	1 888	1 888	1 600			288
	1 autoclave	40	1		unit	8 440	9 440	8 000			1 440
	Reagents and lab consumables	40	1		unit	17 884	10 550	10 550			
A.1.3	Build the capacities of SODEFOR officers										
	Conduct training of SODEFOR officers	10				1000	1000				1 000

Output 2	The use of African barwood is sustainable and under control									
A.2.1	Undertake information, education and communication campaigns on SFM practices									
	Information and communication for communities	20	1	1	u	2 000	4 000	2 000	2 000	
	Train communities in improved stove manufacturing	20		4	Session	500	2 000		2 000	
	Purchase of improved stoves	40	20	20	u	100	2 000	2 000	2 000	
A.2.2	Organize consultation sessions among stakeholders									
	Set up the stakeholder consultation committee	30	2		mission	500	1 000	1 000		
	Conduct public consultations	30	1	1	year	2 000	6 000	2 000	2 000	
A.2.3	Establish 180 ha of African barwood in mixed plantations with teak and 50 ha of fuelwood (<i>Cassia siamea</i>)									
	Train local communities in forestry work	10	2		session	1 000	2 000	2 000		
	Plot survey	20	100		ha	2	200	200		
	Produce seedlings	20	187 908		seedling	2/25	15 033	15033		
	Site preparation work	20	90		ha	250	22 500	22500		
	Establish forest plantations over 90 ha	20	90		ha	50	4 500	4500		
	Maintenance of established plantations	20	270	180	ha	40	18 000	10800	7 200	
	Build inter-plot trails	20	2		km	1 000	2 000	2000		
	Maintain inter-plot trails	20		2	km	100	200		200	
	Machinery, fieldwork tools (machettes, secateurs, dabas, limes, knives, scalpels, etc.)	40	1		unit	3 000	3 540	3 000		540
	Nursery equipment	40	2		unit	3 000	7 080	6 000		1 080

Output 3	Bushfires are under control										
A.3.1	Conduct awareness-raising campaigns on bushfire risks for communities										
	24 campaign meetings during Year 1, 12 campaign meetings during Year 2 and 6 campaign meetings during Year 3	13	13	7	meeting	200	5 200	2 600	2 600		
A.3.2	Reinforce fire surveillance and control										
	Set up bushfire control committees	30	2		mission	1 000	2 000	2 000			
	Train bushfire control committees in bushfire control strategies	20	7	7	session	400	5 600	2 800	2 800		
	Organize surveillance patrols against bushfires	20	10	10	year	300	21 600	3 000	3 000		
	Fire control equipment	40	8	8	unit	200	3 488	1 600	1 600	288	288
A.3.3	Promote the use of firebreaks										
	Establish firebreaks	20	1		km	400	400	400			
	Maintain firebreaks	20		1	km	100	100		100		
	Project coordination										
	Mission – Project leader	30	40	40	person-day	60	4 800	2 400	2 400		
	Mission - Assistant	30	40	40	person-day	60	4 800	2 400	2 400		
	Mission – Monitoring and evaluation by agency	30	60	60	person-day	60	7 200	3 600	3 600		
	Mission – Driver	30	40	40	person-day	40	3 200	1 600	1 600		
	1 Project leader	10	12	12	person-month	1 400	33 600			16 800	16 800
	2 Project leader assistants	10	12	12	person-month	1 200	57 600			28 800	28 800
	Monitoring and evaluation officer	10	9	9	person-month	1 400	25 200			12 600	12 600
	Driver	10	12	12	person-month	400	9 600			4 800	4 800
	1 accountant	10	12	12	person-month	800	19 200			9 600	9 600
	1 secretary	10	12	12	person-month	600	14 400			7 200	7 200

	Equipment and miscellaneous										
	1 double-seater vehicle	40	1		unit	40 000	47 200	40 000		7 200	
	1 desktop computer	40	1		unit	600	708	600		108	
	2 laptops	40	2		unit	800	1 888	1 600		288	
	2 printers	40	2		unit	400	944	800		144	
	2 scanners	40	2		unit	120	283	240		43	
	2 digital cameras	40	2		unit	400	944	800		144	
	4 GPS	40	4		unit	600	2 832	2 400		432	
	Spare parts	50	1	1	year	3 000	6 540	3 000	3 000	540	540
	Fuel and lubricants	50	1	1	year	8 000	16 000	8 000	8 000		
	Office supplies	50	12	12	month	200	4 800	2 400	2 400		
	Vehicle insurance	60	1	1	year	1 000	2 000	1 000	1 000		
	Publishing costs and completion report	60			unit	3 000	3 000				
	Bank charges	60	12	12	month	200	4 800	2 400	2 400		
	Monitoring committee	60	1	1	year	2 000	4 000			2 000	2 000
	Audit	60	1	1	year	5 000	10 000	5 000	5 000		
	Contingencies	60			unit	5 000					
	GRAND TOTAL							204 414	61 300	95 354	82 628

US\$1.00 = FCFA500.00

3.4.1.2 Consolidated budget by component (Phase I)

Component	Budget components	Total US\$	Year 1	Year 2
10.	PROJECT PERSONNEL			
	11- National experts			
	11.1- Project leader	33 600	16 800	16 800
	11.2 - Assistants to the Project Leader	57 600	28 800	28 800
	11.3 - Monit. & eval. officer, headquarters	25 200	12 600	12 600
	12- Other staff			
	12.1- Driver	9 600	4 800	4 800
	12.2- Accountant	19 200	9 600	9 600
	12.3- Secretary	14 400	7 200	7 200
	13 - Consultant (supervision of surveys, trials, inventory, etc.)	8 000	4 000	4 000
	15 – Training			
	15.1 - Training of SODEFOR officers	1 000	1 000	
	15.2 - Training of communities in forestry work	2 000	2 000	
	15.3- Training of communities in improved stove manufacturing	2 000		2 000
	15.4- Training of bushfire control committees in bushfire surveillance and control techniques	5 600	2 800	2 800
	19 Component total	178 200	89 600	88 600
20.	Sub-contracting			
	21. Species' germination tests			
	21.1- Suckers induction trials and cuttings tests	6 000	6 000	-
	21.2- Establishment of a rootstock orchard	500	500	-
	21.3- Establishment of a clone orchard	2 000	2 000	-
	22. Information, education and outreach for communities on sustainable management practices			
	22.1- Information and outreach for communities	4 000	2 000	2 000
	23. Establishment of 70 ha forest plots and 20 ha fuelwood plots			
	23.1- Seedling production	15 033	15 033	
	23.2- Plot survey	200	200	
	23.3- Site preparation work	22 500	22 500	
	23.4- Establish plantations over 90 ha	4 500	4 500	
	23.5- Maintenance of established plantations	18 000	10 800	7 200
	23.6- Build inter-plot trails	2 000	2 000	
	23.7- Maintenance of inter-plot trails	200		200
	24. Bushfire Control			
	24.1- Awareness-raising campaign on bushfire risks targeting communities	5 200	2 600	2 600

	24.3- Organize surveillance against bushfires	6 000	3 000	3 000
	24.4- Establish fire breaks	400	400	
	24.5- Maintenance of fire breaks	100		100
	29 Component total	86 633	71 533	15 100
30.	Duty travel			
	33. Mission-related costs			
	Mission - Project Leader	4 800	2 400	2 400
	Mission - Assistant	4 800	2 400	2 400
	Internal monitoring and evaluation – Executing Agency	7 200	3 600	3 600
	Driver	3 200	1 600	1 600
	33.33 Other			
	Survey on traditional knowledge	4 000	4 000	
	Inventory on existing regeneration processes	4 000	4 000	
	Setting up bushfire control committees	2 000	2 000	
	Setting up stakeholder consultation committee	1 000	1 000	
	Organizing public consultations	4 000	2 000	2 000
	39 Component total	35 000	23 000	12 000
40.	Capital items			
	43- Vehicles			
	43.1- AWD Vehicle - 2-seater	47 200	47 200	
	44- Capital items			
	44.1- Computer equipment	-	-	-
	- Desktop computer (PC)	708	708	-
	- Laptop computer	1 888	1 888	-
	- Printer	944	944	-
	- Scanner	283	283	-
	- Digital camera	944	944	-
	- GPS (GARMIN BRAND)	2 832	2 832	-
	44.2- Forestry Equipment	-	-	-
	- Decametre	30	30	-
	- Measuring tape	80	80	-
	- Criterion dendrometer	1 888	1 888	-
	- Autoclave	9 440	9 440	-
	44.3- Other	-	-	-
	Machinery, fieldwork tools (machetes, pruning shears, dabas, knives, scalpel, etc.)	3 540	3 540	-
	Nursery equipment	7 080	7 080	-
	Reagents and lab consumables	10 550	10 550	-
	Improved stoves	4 000	2 000	2 000
	Fire control equipment	3 776	1 888	1 888
	49 Component total	95 183	91 295	3 888
50.	Consumable items	-	-	-
	52- Spare parts	7 080	3 540	3 540

	53- Fuel and lubricants	16 000	8 000	8 000
	54- Office supplies	4 800	2 400	2 400
	59 Component total	27 880	13 940	13 940
60.	Miscellaneous	-	-	-
	61- Sundries	-	-	-
	- Vehicle insurance	2 000	1 000	1 000
	- Editing costs and project completion report	-	-	-
	- Bank charges	4 800	2 400	2 400
	- Monitoring committee	4 000	2 000	2 000
	62- Audit	10 000	5 000	5 000
	63- Contingencies	-	-	-
	69 Component total	20 800	10 400	10 400
	SUB-TOTAL	443 696	299 768	143 928
70.	Management costs (executing agency)			
	71- Costs			
	SUB-TOTAL	443 696	299 768	143 928
80.	ITTO Monit., Eval. and Admin.	-	-	-
	81- ITTO Monitoring & Evaluation	10 000	10 000	-
	82- ITTO Mid-term Evaluation	10 000	5 000	5 000
	SUB-TOTAL	463 696	314 768	148 928
	83 - ITTO Programme Support Costs (12%)	34 286	26 330	7 956
	84 - Donors' monitoring costs	-	-	-
	GRAND TOTAL	497 982	341 098	156 884

US\$1.00 = FCFA500.00

3.4.1.3 Budget contribution by component – ITTO (Phase I)

Component	Budget Components	Total US\$	Year 1	Year 2
10.	PROJECT PERSONNEL			
	11- National experts			
	11.1- Project leader			
	11.2 - Assistants to the Project Leader			
	11.3 - Monit. & eval. officer, headquarters			
	12- Other staff			
	12.1- Driver			
	12.2- Accountant			
	12.3- Secretary			
	13 - Consultant (supervision of surveys, trials, inventory, etc.)	8 000	4 000	4 000
	15 – Training			
	15.1 - Training of SODEFOR officers			
	15.2 - Training of communities in forestry work	2 000	2000	
	15.3- Training of communities in improved stove manufacturing	2 000		2 000
	15.4- Training of bushfire control committees in bushfire surveillance and control techniques	5 600	2 800	2 800
	19 Component total	17 600	8 800	8 800
20.	Sub-contracting			
	21. Species' germination tests			
	21.1- Suckers induction trials and cuttings tests	6 000	6 000	
	21.2- Establishment of a rootstock orchard	500	500	
	21.3- Establishment of a clone orchard	2 000	2 000	
	22. Information, education and outreach for communities on sustainable management practices			
	22.1- Information and outreach for communities	4 000	2 000	2 000
	23. Establishment of forest plots and fuelwood plots			
	23.1- Seedling production	15033	15033	
	23.2- Plot survey	200	200	
	23.3- Site preparation work	22500	22500	
	23.4- Establish plantations over 90 ha	4500	4500	
	23.5- Maintenance of established plantations	18 000	10800	7200
	23.6- Build inter-plot trails	2 000	2000	
	23.7- Maintenance of inter-plot trails	200		200
	24. Bushfire Control			
	24.1- Awareness-raising campaign on bushfire risks targeting communities	5 200	2600	2600
	24.3- Organize surveillance patrols against bushfires	6 000	3 000	3 000
	24.4- Establish fire breaks	400	400	
	24.5- Maintenance of fire breaks	100		100
	29 Component total	86 633	71 533	15 100
30.	Duty travel			
	33. Mission-related costs			
	Mission - Project Leader	4 800	2400	2400
	Mission - Assistant	4 800	2400	2400

	Monitoring & evaluation – Executing Agency	7 200	3600	3600
	Driver	3 200	1600	1600
	33.33 Other			
	Survey on traditional knowledge	4 000	4000	
	Inventory on existing regeneration processes	4 000	4000	
	Setting up bushfire control committees	2 000	2 000	
	Setting up stakeholder consultation committee	1 000	1 000	
	Organizing public consultations	4 000	2000	2000
	39 Component total	35 000	23000	12000
40.	Capital goods			
	43- Vehicles			
	43.1- AWD Vehicle - 2-seater	40 000	40 000	
	44- Capital items			
	44.1- Computer equipment			
	- Desktop computer (PC)	600	600	
	- Laptop computer	1 600	1 600	
	- Printer	800	800	
	- Scanner	240	240	
	- Digital camera	800	800	
	- GPS (GARMIN BRAND)	2 400	2 400	
	44.2- Forestry Equipment			
	- Decametre	25	25	
	- Measuring tape	66	66	
	- Criterion dendrometer	1 600	1 600	
	- Autoclave	8 000	8 000	
	44.3- Other			
	Machinery, fieldwork tools (machetes, pruning shears, dabas, knives, scalpel, etc.)	3 000	3 000	
	Nursery equipment	6 000	6 000	
	Reagents and lab consumables	10 550	10 550	
	Improved stoves	4 000	2 000	2000
	Fire control equipment	3 200	1 600	1600
	49 Component total	82 881	79281	3600
50.	Consumable items			
	52- Spare parts	6 000	3000	3000
	53- Fuel and lubricants	16 000	8000	8000
	54- Office supplies	4 800	2400	2400
	59 Component total	26 800	13400	13400
60.	Miscellaneous			
	61- Sundries			
	- Vehicle insurance	2 000	1000	1000
	- Editing costs and project completion report	0		
	- Bank charges	4 800	2400	2400
	- Monitoring committee	0		
	62- Audit	10 000	5000	5000
	63- Contingencies	0		
	69 Component total	16 800	8400	8400

	SUB-TOTAL	265 714	204 414	61 300
70.	Management costs (executing agency)			
	71- Costs			
	SUB-TOTAL	265 714	204 414	61 300
80.	ITTO Monit., Eval. and Admin.			
	81- ITTO Monitoring & Evaluation	10 000	10000	
	82- ITTO Mid-term Evaluation	10 000	5000	5000
	SUB-TOTAL	285 714	219 414	66 300
	83 - ITTO Programme Support Costs (12%)	34 286,0	26 330,0	7 956
	84 - Donors' monitoring costs			
	GRAND TOTAL	320 000	245 744	74 256

US\$1.00 = FCFA500.00

3.4.1.4 Budget contribution by component - Executing Agency (Phase I)

Component	Budget Components	Total \$EU	Year 1	Year 2
10.	PROJECT PERSONNEL			
	11- National experts			
	11.1- Project leader	33 600	16 800	16 800
	11.2 - Assistants to the Project Leader	57 600	28 800	28 800
	11.3 - Monit. & Eval. Officer, headquarters	25 200	12 600	12 600
	12- Other staff			
	12.1- Driver	9 600	4 800	4 800
	12.2- Accountant	19 200	9 600	9 600
	12.3- Secretary	14 400	7 200	7 200
	13 - Consultant (supervision of surveys, trials, inventory, etc.)			
	15 – Training			
	15.1 - Training of SODEFOR Staff	1 000	1 000	
	15.2 - Training of communities in forestry work			
	15.3- Training of communities in improved stove manufacturing			
	15.4- Training of bushfire control committees in bushfire surveillance and control techniques			
	19 Component total	160 600	80 800	79 800
20.	Sous-traitance			
	Sub-contracting			
	21. Conduct of germinating test for species			
	21.1- Suckers induction trials and cuttings tests			
	21.2- Establishment of a rootstock orchard			
	21.3- Establishment of a clone orchard			
	22. Information, education and outreach for communities on sustainable management practices			
	22.1- Information and outreach for communities			
	23. Establishment of forest plots and fuelwood plots			
	23.1- Seedling production			
	23.2- Plot survey			
	23.3- Site preparation work			
	23.4- Establish plantations over 90 ha			
	23.5- Maintenance of established plantations			
	23.6- Build inter-plot trails			
	23.7- Maintenance of inter-plot trails			
	24. Bushfire Control			
	24.1- Awareness-raising campaign on bushfire risks targeting communities			
	24.3- Organize surveillance patrols against bushfires			

	24.4- Establish fire breaks			
	24.5- Maintenance of fire breaks			
	29 Component total			
30.	Duty travel			
	33. Mission-related costs			
	Mission - Project Leader			
	Mission - Assistant			
	Internal monitoring and evaluation – Executing Agency			
	Driver			
	33.33 Other			
	Survey on traditional knowledge			
	Inventory on existing regeneration processes			
	Setting up bushfire control committees			
	Setting up stakeholder consultation committee			
	Organizing public consultations			
	39 Component total			
40.	Capital items			
	43- Vehicles			
	43.1- AWD Vehicle - 2-seater	7 200	7 200	
	44- Capital goods	-		
	44.1- Computer equipment	-		
	- Desktop computer (PC)	108	108	
	- Laptop computer	288	288	
	- Printer	144	144	
	- Scanner	43	43	
	- Digital camera	144	144	
	- GPS (GARMIN BRAND)	432	432	
	44.2- Forestry Equipment	-		
	- Decametre	5	5	
	- Measuring tape	14	14	
	- Dendrometer criterion	288	288	
	- Autoclave	1 440	1 440	
	44.3- Other	-		
	Machinery, fieldwork tools (machetes, pruning shears, dabas, knives, scalpel, etc.)	540	540	
	Nursery equipment	1 080	1 080	
	Reagents and lab consumables	-		
	Improved stoves	-		
	Fire control equipment	576	288	288
	49 Component total	12 302	12 014	288
50.	Consumables			
	52- Spare parts	1 080	540	540
	53- Fuel and lubricants			
	54- Office supplies			

	59 Component total	1 080	540	540
60.	Miscellaneous			
	61- Sundries			
	- Vehicle insurance			
	- Editing costs and project completion report			
	- Bank charges			
	- Monitoring committee	4 000	2 000	2 000
	62- Audit			
	63- Contingencies			
	69 Component total	4 000	2 000	2 000
	SUB-TOTAL	177 982	95 354	82 628
70.	Management costs (executing agency)			
	71- Costs			
	SUB-TOTAL	177 982	95 354	82 628
80.	ITTO monitoring, evaluation and administration			
	81- ITTO monitoring & evaluation			
	82- ITTO mid-term evaluation			
	83- Ex-post evaluation			
	84- Costs for audit by ITTO			
	SUB-TOTAL			
	83 - ITTO programme support costs (12%)			
	84 - Donors' monitoring costs			
	GRAND TOTAL	177 982	95 354	82 628

US\$1.00 = FCFA500.00

3.4.1.5- Yearly project budget by source – ITTO (Phase I)

Components	Budget components	Total US\$	Year 1	Year 2
10.	PROJECT PERSONNEL	17 600	8 800	8 800
20.	Sub-contracting	86 633	71 533	15 100
30.	Duty travel	35 000	23000	12000
40.	Capital items	82 881	79281	3600
50.	Consumable items	26 800	13400	13400
60.	Miscellaneous	16 800	8400	8400
	Sub-total 1	265 714	204 414	61 300
80.	ITTO monitoring, evaluation and administration			
	81- ITTO Monitoring and review	10 000	10000	
	82- ITTO mid-term evaluation	10 000	5000	5000
	Sub-total 2	285 714	219 414	66 300
	83 – ITTO Programme support costs (12%)	34 286	26 330,	7 956
	84 – Donors’ monitoring costs			
	GRAND TOTAL	320 000	245 744	74 256

US\$1.00 = FCFA500.00

3.4.1.6- Yearly project cost by source- Executing Agency (Phase I)

Components	Budget components	Total US\$	Year 1	Year 2
10.	PROJECT PERSONNEL	160 600	80 800	79 800
20.	Sub-contracting	-		
30.	Duty travel	-		
40.	Capital items	12 302	12 014	288
50.	Consumable items	1 080	540	540
60.	Miscellaneous	4 000	2 000	2 000
	EXECUTING AGENCY TOTAL	177 982	95 354	82 628

US\$1.00 = FCFA500.00

3.4.2- Project budget – Phase II

3.4.2.1- Master budget schedule (Phase II)

			Quantity	Units	Unit costs	Total cost	ITTO	Executing Agency
			Year 3		US\$	US\$	Year 3	Year 3
Outputs/Activities	Description	Component						
Output 1	Propagation procedures for the African barwood species are mastered							
A.1.2	Conduct tests on species' germination							
	Consultant (supervision of surveys, trials, inventory, etc.)	10	8	month	500	4000	4 000	
	Reagents and lab consumables	40	1	unit	17 884	7 334	7 334	
Output 2	The use of African barwood is sustainable and under control							
A.2.1	Undertake information, education and communication campaigns on sustainable management practices							
	Train communities in improved stove manufacturing	20	7	Session	500	3 500	3 500	
	Purchase of improved stoves	40	79	u	100	7 900	7 900	
A.2.2	Organize consultation sessions among stakeholders							
	Conduct public consultations	30	1	year	2 000	2 000	2 000	
A.2.3	Establish 180 ha of African barwood in mixed plantations with teak and 50 ha of fuelwood (<i>Cassia siamea</i>)							
	Train local communities in forestry work	10	2	session	1 000	2 000	2 000	
	Plot survey	20	150	ha	2	300	300	
	Produce seedlings	20	23 445	seedling	2/25	23 445	23445	
	Site preparation work	20	140	ha	250	35 000	35 000	
	Establish forest plantations over 140 ha	20	140	ha	50	7 000	7 000	
	Maintenance of established plantations	20	600	ha	40	24 000	24 000	
	Build inter-plot trails	20	4	km	1 000	4 000	4000	

	Maintain inter-plot trails	20	4	km	100	400	400	
	Machinery, fieldwork tools (machettes, secateurs, dabas, limes, knives, scalpels, etc.)	40	3	unit	3 000	10 620	9 000	1 620
Output 3	Bushfires are under control							
A.3.1	Conduct awareness-raising campaigns on bushfire risks for communities							
	13 campaign meetings during Year 1, 13 campaign meetings during Year 2 and 16 campaign meetings during Year 3	30	16	meeting	200	3 200	3 200	
A.3.2	Reinforce fire surveillance and control							
	Train bushfire control committees in bushfire control strategies	20	10	session	400	4 000	4 000	
	Organize surveillance against bushfires	20	52	year	300	15 600	15 600	
	Fire control equipment	40	8	unit	200	1 888	1 600	288
A.3.3	Promote the use of firebreaks							
	Establish firebreaks	20	2	km	400	800	800	
	Maintain firebreaks	20	2	km	100	200	200	
	Project coordination							
	Mission – Project leader	30	40	person-day	60	2 400	2 400	
	Mission - Assistant	30	40	person-day	60	2 400	2 400	
	Mission – Monitoring and evaluation by executing agency	30	60	person-day	60	3 600	3 600	
	Mission – Driver	30	40	person-day	40	1 600	1 600	
	1 Project leader	10	12	person-month	1 400	16 800		16 800
	2 Project leader assistants	10	12	person-month	1 200	28 800		28 800
	Monitoring and evaluation officer	10	9	person-month	1 400	12 600		12 600
	Driver	10	12	person-month	400	4 800		4 800
	1 accountant	10	12	person-month	800	9 600		9 600
	1 secretary	10	12	person-month	600	7 200		7 200
	Equipment and miscellaneous							

	Spare parts	50	1	year	3 000	3 540	3 000	540
	Fuel and lubricants	50	1	year	8 000	8 000	8 000	
	Office supplies	50	12	month	200	2 400	2 400	
	Vehicle insurance	60	1	year	1 000	1 000	1 000	
	Editing costs and completion report	60	1	unit	3 000	3 000	3 000	
	Bank charges	60	12	month	200	2 400	2 400	
	Monitoring committee	60	1	year	2 000	2 000		2 000
	Audit	60	1	year	5 000	5 000	5 000	
	Contingencies	60	1	unit	5 000	5 000	5 000	
	GRAND TOTAL						195 079	84 248

3.4.2.2- Consolidated budget by component (Phase II)

Component	Budget components	Total US\$	Year 3
10.	PROJECT PERSONNEL		
	11- National experts		
	11.1- Project leader	16 800	16 800
	11.2 - Assistants to the Project Leader	28 800	28 800
	11.3 - Monit. & eval. officer, headquarters	12 600	12 600
	12- Other staff	-	-
	12.1- Driver	4 800	4 800
	12.2- Accountant	9 600	9 600
	12.3- Secretary	7 200	7 200
	13 - Consultant (supervision of surveys, trials, inventory, etc.)	4 000	4 000
	15 – Training	-	-
	15.1 - Training of SODEFOR officers	-	-
	15.2 - Training of communities in forestry work	2 000	2 000
	15.3- Training of communities in improved stove manufacturing	3 500	3 500
	15.4- Training of bushfire control committees in bushfire surveillance and control techniques	4 000	4 000
	19 Component total	93 300	93 300
20.	Sub-contracting	-	-
	21. Species' germination tests	-	-
	21.1- Suckers induction trials and cuttings tests	-	-
	21.2- Establishment of a rootstock orchard	-	-
	21.3- Establishment of a clone orchard	-	-
	22. Information, education and outreach for communities on sustainable management practices	-	-
	22.1- Information and outreach for communities	-	-
	23. Establishment of 110 ha forest plots and 30 ha fuelwood plots	-	-
	23.1- Seedling production	23 445	23 445
	23.2- Plot survey	300	300
	23.3- Site preparation work	35 000	35 000
	23.4- Establish plantations over 140 ha	7 000	7 000
	23.5- Maintenance of established plantations	24 000	24 000
	23.6- Build inter-plot trails	4 000	4 000
	23.7- Maintenance of inter-plot trails	400	400
	24. Bushfire Control	-	-
	24.1- Awareness-raising campaign on bushfire risks targeting communities	3 200	3 200
	24.3- Organize surveillance against bushfires	15 600	15 600
	24.4- Establish fire breaks	800	800
	24.5- Maintenance of fire breaks	200	200
	29 Component total	113 945	113 945
30.	Duty travel	-	-
	33. Mission-related costs	-	-

	Mission - Project Leader	2 400	2 400
	Mission - Assistant	2 400	2 400
	Internal monitoring and evaluation – Executing Agency	3 600	3 600
	Driver	1 600	1 600
	33.33 Other	-	-
	Survey on traditional knowledge	-	-
	Inventory on existing regeneration processes	-	-
	Setting up bushfire control committees	-	-
	Setting up stakeholder consultation committee	-	-
	Organizing public consultations	2 000	2 000
	39 Component total	12 000	12 000
40.	Capital items	-	-
	43- Vehicles	-	-
	43.1- AWD Vehicle - 2-seater	-	-
	44- Capital goods	-	-
	44.1- Computer equipment	-	-
	- Desktop computer (PC)	-	-
	- Laptop computer	-	-
	- Printer	-	-
	- Scanner	-	-
	- Digital camera	-	-
	- GPS (GARMIN BRAND)	-	-
	44.2- Forestry Equipment	-	-
	- Decametre	-	-
	- Measuring tape	-	-
	- Criterion dendrometer	-	-
	- Autoclave	-	-
	44.3- Other	-	-
	Machinery, fieldwork tools (machetes, pruning shears, dabas, knives, scalpel, etc.)	10 620	10 620
	Nursery equipment	-	-
	Reagents and lab consumables	7 334	7 334
	Improved stoves	7 900	7 900
	Fire control equipment	1 888	1 888
	49 Component total	27 742	27 742
50.	Consumable items	-	-
	52- Spare parts	3 540	3 540
	53- Fuel and lubricants	8 000	8 000
	54- Office supplies	2 400	2 400
	59 Component total	13 940	13 940
60.	Miscellaneous	-	-
	61- Sundries	-	-
	- Vehicle insurance	1 000	1 000
	- Editing costs and project completion report	3 000	3 000
	- Bank charges	2 400	2 400

	- Monitoring committee	2 000	2 000
	62- Audit	5 000	5 000
	63- Contingencies	5 000	5 000
	69 Component total	18 400	18 400
	SUB-TOTAL	279 327	279 327
70.	Management costs (executing agency)	-	-
	71- Costs	-	-
	SUB-TOTAL	279 327	279 327
80.	ITTO Monitoring, evaluation and administration	-	-
	81- ITTO Monitoring & Evaluation	20 000	20 000
	82- ITTO Mid-term Evaluation	5 000	5 000
	SUB-TOTAL	304 327	304 327
	83 - ITTO Programme Support Costs (12%)	26 409	26 409
	84 - Donors' monitoring costs	-	-
	GRAND TOTAL	330 736	330 736

US\$1.00 = FCFA500.00

3.4.2.3- Budget contribution by component – ITTO (Phase II)

Components	Budget Components	Total US\$	Year 3
10.	PROJECT PERSONNEL		
	11- National experts		
	11.1- Project leader		
	11.2 - Assistants to the Project Leader		
	11.3 - Monit. & eval. officer, headquarters		
	12- Other staff		
	12.1- Driver		
	12.2- Accountant		
	12.3- Secretary		
	13 - Consultant (supervision of surveys, trials, inventory, etc.)	4 000	4 000
	15 – Training		
	15.1 - Training of SODEFOR officers		
	15.2 - Training of communities in forestry work	2 000	2 000
	15.3- Training of communities in improved stove manufacturing	3 500	3 500
	15.4- Training of bushfire control committees in bushfire surveillance and control techniques	4 000	4 000
	19 Component total	13 500	13 500
20.	Sub-contracting		
	21. Species' germination tests		
	21.1- Suckers induction trials and cuttings tests		
	21.2- Establishment of a rootstock orchard		
	21.3- Establishment of a clone orchard		

	22. Information, education and outreach for communities on sustainable management practices		
	22.1- Information and outreach for communities		
	23. Establishment of forest plots over 110 ha and fuelwood plots over 30 ha		
	23.1- Seedling production	23 445	23 445
	23.2- Plot survey	300	300
	23.3- Site preparation work	35 000	35 000
	23.4- Establish plantations over 140 ha	7 000	7 000
	23.5- Maintenance of established plantations	24 000	24 000
	23.6- Build inter-plot trails	4 000	4 000
	23.7- Maintenance of inter-plot trails	400	400
	24. Bushfire Control		
	24.1- Awareness-raising campaign on bushfire risks targeting communities	3 200	3 200
	24.3- Organize surveillance patrols against bushfires	15 600	15 600
	24.4- Establish fire breaks	800	800
	24.5- Maintenance of fire breaks	200	200
	29 Component total	113 945	113 945
30.	Duty travel		
	33. Mission-related costs		
	Missions - Project Leader	2 400	2 400
	Missions - Assistant	2 400	2 400
	Monitoring & evaluation – Executing Agency	3 600	3 600
	Driver	1 600	1 600
	33.33 Other		
	Survey on traditional knowledge		
	Inventory on existing regeneration processes		
	Setting up bushfire control committees		
	Setting up stakeholder consultation committee		
	Organizing public consultations	2 000	2 000
	39 Component total	12 000	12 000
40.	Capital items		
	43- Vehicles		
	43.1- AWD Vehicle - 2-seater		
	44- Capital goods		
	44.1- Computer equipment		
	- Desktop computer (PC)		
	- Laptop computer		
	- Printer		
	- Scanner		
	- Digital camera		
	- GPS (GARMIN BRAND)		

	44.2- Forestry Equipment		
	- Decametre		
	- Measuring tape		
	- Criterion dendrometer		
	- Autoclave		
	44.3- Other		
	Machinery, fieldwork tools (machetes, pruning shears, dabas, knives, scalpel, etc.)	9 000	9 000
	Nursery equipment		
	Reagents and lab consumables	7 334	7 334
	Improved stoves	7 900	7 900
	Fire control equipment	1 600	1 600
	49 Component total	25 834	25 834
50.	Consumable items		
	52- Spare parts	3 000	3 000
	53- Fuel and lubricants	8 000	8 000
	54- Office supplies	2 400	2 400
	59 Component total	13 400	13 400
60.	Miscellaneous		
	61- Sundries		
	- Vehicle insurance	1 000	1 000
	- Editing costs and project completion report	3 000	3 000
	- Bank charges	2 400	2 400
	- Monitoring committee		
	62- Audit	5 000	5 000
	63- Contingencies	5 000	5 000
	69 Component total	16 400	16 400
	SUB-TOTAL	195 079	195 079
70.	Management costs (Executing Agency)		
	71- Costs		
	SUB-TOTAL	195 079	195 079
80.	ITTO Monitoring, Evaluation and Administration		
	81- ITTO Monitoring & Evaluation	20 000	20 000
	82- ITTO Mid-term Evaluation	5 000	5 000
	SUB-TOTAL	220 079	220 079
	83 - ITTO Programme Support Costs (12%)	26 409	26 409
	84 - Donors' monitoring costs		
	GRAND TOTAL	246 488	246 488

US\$1.00 = FCFA500.00

3.4.2.4- Budget contribution by component - Executing Agency (Phase II)

Components	Budget Components	Total	Year 3
10.	PROJECT PERSONNEL		
	11- National experts		
	11.1- Project leader	16 800	16 800
	11.2 - Assistants to the Project Leader	28 800	28 800
	11.3 - Monit. & Eval. Officer, headquarters	12 600	12 600
	12- Other staff		
	12.1- Driver	4 800	4 800
	12.2- Accountant	9 600	9 600
	12.3- Secretary	7 200	7 200
	13 - Consultant (supervision of surveys, trials, inventory, etc.)		
	15 – Training		
	15.1 - Training of SODEFOR Staff		
	15.2 - Training of communities in forestry work		
	15.3- Training of communities in improved stove manufacturing		
	15.4- Training of bushfire control committees in bushfire surveillance and control techniques		
	19 Component total	79 800	79 800
20.	Sub-contracting		
	21. Conduct of germinating test for species		
	21.1- Suckers induction trials and cuttings tests		
	21.2- Establishment of a rootstock orchard		
	21.3- Establishment of a clone orchard		
	22. Information, education and outreach for communities on sustainable management practices		
	22.1- Information and outreach for communities		
	23. Establishment of 200 ha forest plots and 50 ha fuelwood plots		
	23.1- Seedling production		
	23.2- Plot survey		
	23.3- Site preparation work		
	23.4- Establish plantations over 250 ha		
	23.5- Maintenance of established plantations		
	23.6- Build inter-plot trails		
	23.7- Maintenance of inter-plot trails		
	24. Bushfire Control		
	24.1- Awareness-raising campaign on bushfire risks targeting communities		
	24.3- Organize surveillance patrols against bushfires		
	24.4- Establish fire breaks		
	24.5- Maintenance of fire breaks		
	29 Component total		
30.	Duty travel		
	33. Mission-related costs		
	Mission - Project Leader		
	Mission - Assistant		

	Internal monitoring and evaluation – Executing Agency		
	Driver		
	33.33 Other		
	Survey on traditional knowledge		
	Inventory on existing regeneration processes		
	Setting up bushfire control committees		
	Setting up stakeholder consultation committee		
	Organizing public consultations		
	39 Component total		
40.	Capital items		
	43- Vehicles		
	43.1- AWD Vehicle - 2-seater		
	44- Capital goods		
	44.1- Computer equipment		
	- Desktop computer (PC)		
	- Laptop computer		
	- Printer		
	- Scanner		
	- Digital camera		
	- GPS (GARMIN BRAND)		
	44.2- Forestry Equipment		
	- Decametre		
	- Measuring tape		
	- Dendrometer criterion		
	- Autoclave		
	44.3- Other		
	Machinery, fieldwork tools (machetes, pruning shears, dabas, knives, scalpel, etc.)	1620	1620
	Nursery equipment		
	Reagents and lab consumables		
	Improved stoves		
	Fire control equipment	288	288
	49 Component total	1908	1908
50.	Consumables		
	52- Spare parts	540	540
	53- Fuel and lubricants		
	54- Office supplies		
	59 Component total	540	540
60.	Miscellaneous		
	61- Sundries		
	- Vehicle insurance		
	- Editing costs and project completion report		
	- Bank charges		
	- Monitoring committee	2000	2000
	62- Audit		
	63- Contingencies		

	69 Component total	2 000	2 000
	SUB-TOTAL	84 248	84 248
70.	Management costs (Executing Agency)		
	71- Costs		
	SUB-TOTAL	84 248	84 248
80.	ITTO monitoring, evaluation and administration		
	81- ITTO monitoring & evaluation		
	82- ITTO mid-term evaluation		
	SUB-TOTAL	84 248	84 248
	83 - ITTO programme support costs (12%)		
	84 - Donors' monitoring costs		
	GRAND TOTAL	84 248	84 248

US\$1.00 = FCFA500.00

3.4.2.5- Yearly project budget by source – ITTO (Phase II)

Components	Budget components	Total US\$	Year 3
10.	PROJECT PERSONNEL	13 500	13 500
20.	Subcontracting	113 945	113 945
30.	Duty travel	12 000	12 000
40.	Capital items	25 834	25 834
50.	Consumable items	13 400	13 400
60.	Miscellaneous	16 400	16 400
	69 Component total		
	Sub-total 1	195 079	195 079
80.	ITTO monitoring, evaluation and administration		
	81- ITTO monitoring and review	20 000	20 000
	82- ITTO mid-term evaluation	5 000	5 000
	Sub-total 2	220 079	220 079
	83 – ITTO Programme support costs (12%)	26 409	26 409
	84 – Donors' monitoring costs		
	GRAND TOTAL	246 488	246 488

3.4.2.6- Yearly project budget by source – Executing Agency (Phase II)

Components	Budget components	Total US\$	Year 3
10.	PROJECT PERSONNEL	79 800	79 800
30.	Duty travel		
40.	Capital items	1 908	1 908
50.	Consumable items	540	540
60.	Miscellaneous	2 000	2 000
	69 Component total		
	SUB-TOTAL	84 248	84 248
70.	Management costs (Executing Agency)		
	71-Costs	0	0
	GRAND TOTAL	84 248	84 248

3.5.1 Assumptions and Risks

The various awareness raising campaigns organized by the Government of Côte d'Ivoire to foster reconciliation and understanding among the communities will doubtless contribute to maintaining social and political stability in the country.

The commitment of all stakeholders will be needed to ensure the project success. To this end, the project, in addition to local populations, will also collaborate with other entities such as the Peleforo Gon Coulibaly University (UPGC) in Korhogo, ANADER and the ARK NGO to ensure the completion of all activities.

The lack of receptivity towards project activities among local populations could hinder the project success. Therefore, the project will conduct awareness-raising activities targeting populations to ensure project appropriation. In addition, activities involving subcontracting work will be conducted by the populations themselves and will generate income.

Vegetative propagation requires that quality seeds are collected and made available for planting in nurseries. The project will use seeds treated beforehand by the laboratory which was set up in the Adzopé Forest Seeds Center for ITTO Project PD 419/06 Rev.3 (F) Management and Conservation of Forest Seeds.

The prolonged drought during the dry season triggers forest fires. Forest fires are major risks for the project during the dry season. However, the new strategy designed under the ITTO project "to control bushfires" focused on participatory management developed with the local communities, with particular emphasis on awareness of all social strata, can significantly minimize these risks.

Furthermore, organizing the local populations into village fire control committees will also contribute to significantly reducing forest fires.

3.5.2 Sustainability

At the end of the project funding period, all stakeholders will have developed their ownership of the project:

- **At the institutional level**

- Project outcomes will enhance the collaboration between SODEFOR and the University of Korhogo, which could lead to further research & development programmes.
- The trials established during the project will be continued and the related activities will be integrated into the respective programmes of both partners (SODEFOR and University of Korhogo).
- Project outcomes will be disseminated for use among other stakeholders.

- **At the technical level**

- SODEFOR will mainstream project outcomes (production of African barwood seedlings, reforestation, sustainable use technique) in its programmes.
- SODEFOR has a well-known technical organization with an adequate experience to enable it to maintain the plantations and land reforestation works, whether undertaken or to be undertaken.
- The University will continue its forestry research programme in collaboration with SODEFOR.

- **At the socio-economic level:**

- Ongoing and close availability of fuel wood is a major asset to protect forests from the illegal, destructive action of the communities in search of fuel wood. Women will travel less distance to stock up on fuel wood.
- Cooperatives/groups will be able to continue their activities, in particular considering the fact that SODEFOR will seek to extend their expertise to silvicultural practices. Plots will be made available to cooperatives on a yearly basis for reforestation operations, where they will be able to establish food crops (Taungya system).

PART 4: IMPLEMENTATION ARRANGEMENTS

4.1 Organization structure and stakeholder involvement mechanisms

4.1.1 Executing agency and partners

The Executing Agency of the project will be the Forest Development Corporation (*Société de Développement des Forêts*—SODEFOR). SODEFOR is a parastatal organization whose mission is the conservation and sustainable management of 234 gazetted forests in Côte d'Ivoire. SODEFOR was established in 1966 and it has extensive experience in the implementation of projects funded either by the State or by development agencies such as the World Bank, African Development Bank, ITTO, etc.

SODEFOR will implement this project through its decentralized structure – the Korhogo Management Centre – which has the management of both gazetted forests under its jurisdiction, in close collaboration the SODEFOR structure responsible for projects. This centre is adequately staffed and has the capital goods and equipment required to fulfil its mission.

The project team will be housed in Korhogo and composed of a Project leader, two assistants (the two heads of forestry units of BOUNDIALI and PALEE, an accountant, a secretary and three drivers. The assistants will each on their own undertake the planned 250 ha reforestation work including all supporting activities. They will be responsible for the daily monitoring of subcontracted activities (production and distribution of seedlings, site preparation, planting, maintenance).

The project partners will be the University of Korhogo, communities surrounding the gazetted forests concerned and one NGO specializing in agricultural extension work.

UNIVERSITY OF KORHOGO

The Peleforo Gon Coulibaly University (UPGC) in Korhogo was established under decree N° 2012-985 of 10 October 2012. It has been operational since Academic Year 2012-2013. This structure is responsible for: vocational training and research, professional retraining and development support. The University is focused on the agro-pastoral sector and its specific objectives are as follows:

- Implement consistent teaching and research programmes to address rural development problems in the country with outreach work at the sub-regional level.
- To provide support, through appropriate expertise, to the Government administration, private companies, national and international NGOs in their actions to promote environmental and socio-economic advancement in the rural world.
- To manage a national and international cooperation network to ensure high training standards.
- To give workers opportunities to acquire professional skills through training and / or graduation courses.

UPGC comprises a variety of training and research structures, including the following:

- One (1) Advanced Education Institute for Agro-pastoralism Management;
- Four (4) Training and Research Units (UFR) including the Life Sciences UFR;
- One (1) Vocational Retraining Centre (CFC) ;
- Three (3) demonstration sites (Natiokobadara aquaculture farm, agropastoral farm in Kiémou, and Agro-ecological site in Nambékaha).

LOCAL COMMUNITIES

They are partners in the project and are responsible for carrying out forestry work under the supervision of the SODEFOR project team. They will be trained by SODEFOR technicians the forest seedling production, field preparation, planting, maintenance work and *Taungya* system practices.

They will also be outreached and educated by SODEFOR officers to the importance of forests and agroforestry practices.

4.1.2 Project management team

The Project Personnel is composed of:

- 1 forest and water Engineer -- The project leader;
- 2 assistants to the Project leader (1 assistant, head of the FMU of Boundiali and Palée and 1 research assistant from the University of KORHOGO).
- The research assistant will carry out all scientific research work;
- The FMU assistant will be responsible for completing the 250 ha reforestation work on each of the two target sites, including all supporting activities. He will be in charge of the daily monitoring of subcontracted activities (clearing, seedling production, planting, maintenance).

- 1 secretary, 1 accountant, 2 drivers, workers.

1 Project leader

A forest engineer with experience in development, the project leader, in addition to its daily activities, will be responsible for:

- To coordinate project implementation at the technical and administrative levels ;
- To coordinate research activities with the University of Korhogo;
- To draft key documents and instruments during the project implementation (programme estimates, progress reports, technical and completion reports, etc.);
- To draft terms of reference for tendering and participate in the analysis of tenders;
- To perform financial transactions relating to field-level activities;
- To hire casual labour force according to ITTO procedures.

1 assistant to the project leader, responsible for research work

***Qualification:** PhD in plant genetics and plant breeding, five (5) years experience in natural tropical forests management, sound knowledge of molecular biology and knowledge of ITs.

***Tasks:** Under the authority of the Project Leader, he is responsible for executing all scientific aspects together with a team of researchers and interns and also to:

- Work closely with SODEFOR for African barwood seedling production.
- Promoting synergy on a daily basis in the fulfilment of all research tasks within the project;
- Ensure in particular the proper execution of the project by encouraging better collaboration within the research team;
- Also ensure compliance with the ITTO procedures;
- Participate in the preparation of annual operating plans of the project, and the related budgets closely with the various services of SODEFOR;
- Participate in the development of the various reports (progress, technical and completion reports) and ensure their consolidation before submission.

1 Assistant to Project leader (FMU), responsible for the two targeted gazetted forests

***Qualification:** Forest engineers, experience in natural tropical forest management, sound knowledge of IT tools.

***Tasks:** Under the authority of the project leader, they will be in charge of establishing 50 ha of fuelwood plantations and 180 ha of African barwood plantations mixed with teak in the identified forests, and also to:

- Work closely with the University of Korhogo for the production of African barwood seedlings and conduct research work on African barwood;
- Promote synergy on a daily basis in the fulfilment of all tasks implemented under the project;
- Ensure in particular proper project execution through promoting enhanced collaboration between the various entities responsible for project implementation;
- Also ensure compliance with the ITTO procedures;
- Prepare the annual operating plans of the project, and related budgets with the close collaboration of the research assistant and with the various services of SODEFOR;
- Participate in the development of the various reports (progress report, technical report and completion report) and ensure their consolidation before submission.

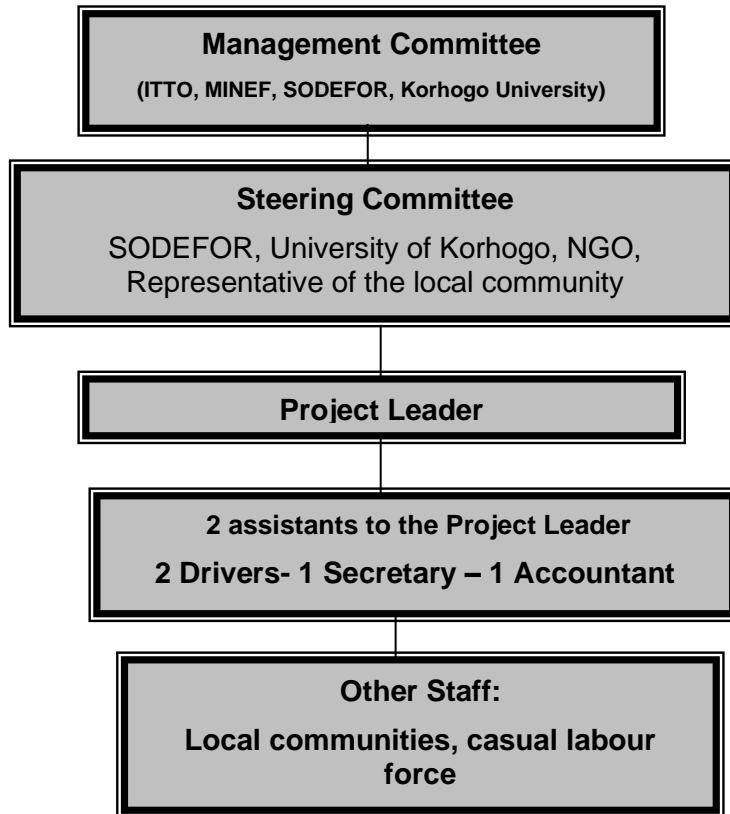
***Duration:** The Project leader and FMU assistant will be made available to SODEFOR for a **three**-year period.

4.1.3 Project steering committee

Organizational chart, coordination and integration of activities.

The organization chart of the project is presented as follows:

PROJECT ORGANIZATIONAL CHART



Project Management Committee

It is the governing body of the project. It is composed of representatives of ITTO, MINEF and members of the project steering committee. It meets once a year, during the supervision / evaluation missions conducted by ITTO. It assesses the implementation of the project by making recommendations for the achievement of project objectives. **The committee will provide guidance to ensure appropriate implementation of activities implemented during project Phase I and Phase II.**

Steering Committee

It consists of representatives of the line ministry, representatives of the University of Korhogo and SODEFOR officers involved in the implementation and monitoring of the project. It is convened by the Project Leader or any other member to deliberate on issues tabled to it, it validates the reports prepared after they have been amended with technical changes incorporated to them in the course of the project before the changes are implemented. **The committee will provide guidance and supervision during project Phase I and Phase II.**

Project leader

The project leader (PL) is responsible for the project both technically, administratively and financially. **The project leader will be responsible for managing activities during project Phase I and Phase II.**

The project leader periodically reports on the implementation status of project activities to the Management Committee chaired by the General Director or his representative. The PL drafts key documents and instruments during the project implementation (programme estimates, progress reports, technical and completion reports, etc.). The PL initiates the execution of financial transactions relating to field activities. The PL initiates the recruitment of casual staff in compliance with ITTO procedures. The PL is assisted by two assistants, an accountant and a secretary.

Assistants to the Project Coordinator

They shall assist the Project Coordinator and ensure the supervision of all field work **during project Phase I and Phase II.**

There are two of them, they are responsible for monitoring project work, both scientific and technical, on a daily basis.

Driver

Transport project personnel and equipment and maintain the vehicle in good working order.

Monitoring and evaluation services

The monitoring and evaluation services of the SODEFOR Directorate responsible for monitoring projects will ensure compliance of schedules of work and associated budget **during project Phase I and Phase II.**

4.1.4 Stakeholder involvement mechanisms

A stakeholder consultation committee will be established. The committee will be comprised of representatives from the local authorities, Korhogo University and ARK NGO. The objective of the consultation committee is to ensure information is provided to stakeholders and to serve as a platform for contributing inputs to the project **during project Phase I and Phase II.** The consultation committee may require and receive information, and may also provide guidance. However, it has no authority over the project. Its recommendations are submitted to the Project Management Committee.

4.2 Reporting, review, monitoring and evaluation

Project Phase I and Phase II will be monitored and evaluated by representatives of the ITTO in accordance with the usual procedures of the Organization.

Project progress reports

An inception report will be produced at the beginning of project Phase I and Phase II respectively. Semi-annual reports will be submitted to ITTO in February and August each year.

The annual financial audit report on the accounts will also be produced and submitted no later than March 31st each year for the duration of the project.

Project Completion report

An interim completion report will be prepared and submitted to ITTO for each project phase, and upon project completion, the final completion report will be prepared and submitted three months after project closure together with the final financial audit report.

Technical Project Reports

All technical reports prepared during **project Phase I and Phase II implementation** will be made available to ITTO and other relevant competent bodies within three months of the end of the project.

Monitoring, review and inspection visits by the Project Management Committee

After completing the first 12 months of project implementation, the Management Committee will proceed with an inspection visit of the project. **Project Phase I and Phase II will be the subject of an annual supervision mission at a date to be set by mutual agreement between the executing agency and ITTO.**

Evaluation

The monitoring missions will determine the need for an evaluation of the project after its completion in accordance with ITTO guidelines.

4.3 Dissemination and mainstreaming of project learning

4.3.1 Dissemination of project results

To ensure wider dissemination of **project Phase I and Phase II outcomes**, awareness and knowledge sharing sessions will be organized. These sessions will bring together stakeholders from the project area and elsewhere and provide opportunities to disseminate the outcomes and results of the project. Community radio stations will also be contributing to the task both during project implementation and after.

Furthermore, the dissemination of project results will also be achieved through technical reports, progress reports and the final report itself.

PhD students will integrate *P. erinaceus* propagation aspects in their research. Bachelors and Masters' dissertations on the propagation of African barwood will be presented by the students involved. The articles will be submitted to international specialist journals.

During the project, we will build upon unpublished data (theses, dissertations, articles, etc.) relating to this research with the support of SODEFOR. Similarly, field observations and experiments on suckering and air layering will be documented by photographs. A CD-Rom will be released and/or communication materials on low-cost propagation processes for the species will be disseminated.

4.3.2 Mainstreaming of project learning

In addition, the technical procedures for the management of savannah forests will be developed through the project technical report. The social, economic partners and SODEFOR officers will be educated to the protection of gazetted forests.

ANNEX 1: PROFILE OF THE EXECUTING AGENCY

I Executing agency profile

The **Société de Développement des Forêts (SODEFOR)** is a State Corporation established in September 1996 as a Forest Plantation Development Company under Government order n° 66-422 of 15 September 1966. Its legal status and business object were changed three times under Decree N° 80-125 of 28 November 1980 when it became a Public Administrative Institution (*Établissement Public à Caractère Administratif*, E.P.A.) and under Decree N° 85-132 of 20 February 1985 when its status changed into that of a Public Industrial and Commercial Institution (E.P.I.C.), and Decree N°93-206 of 13 February 1993 under which it became a State Corporation.

SODEFOR currently reports directly to the **Ministry of Water and Forests** (*Ministère des Eaux et Forêts*) and the **Ministry of Economy and Finance**; it will be responsible for project execution and coordinate all technical assistance activities.

SODEFOR is currently managed by a Board of Directors comprising nine members. It is structured with one General Directorate, five Central Directorates and two Headquarters Departments. They are as follows:

- The Technical Directorate
- The Directorate of Finance and Accounting
- The Directorate of Planning, Projects and Financing
- The Directorate of Commerce and Marketing
- The Directorate of Administration and Human Resources
- The Department of Audit and Control
- The Department of Information and Technology Systems.

Local and Field Service Branches include nine Management Centres – Abidjan, Agboville, Abengourou, Bouaké, Korhogo Daloa, Gagnoa, Man and San-Pedro – to which are attached the implementation structures named Forest Management Units (*Unités de gestion forestière*).

II – SODEFOR's expertise

As part of its missions, SODEFOR has been implementing the policies of the Forest Master-Plan since 1989 through a number of large-scale projects including the *Projet Sectoriel Forestier (PSF)* funded by several donors to achieve the objectives of the Emergency Plan (*Plan d'urgence*) identified in the Master Plan.

These donors included the World Bank, CDC, GTZ, KFW, EDF, CIDA, AfDB, CFD, FAC, FAO, WFP and ITTO.

The overall amount of these external funding has amounted to FCFA 57 billion.

Through these various programmes SODEFOR has achieved significant results in terms of natural forest management, reforestation work and involvement of local communities in forest management, including the following:

- ◆ The reforestation of more than 230,000 hectares to date, using various hardwood timber species;
- ◆ The demarcation of and studies on more than 105 gazetted forests cover a total surface area in excess of 2.5 million hectares (i.e. over 67% of the national forest cover), including the conduct of inventories, socio-economic studies and 1:20,000 vegetation maps;
- ◆ The preparation of management plans for more than 92 gazetted forests totalling over 2 million hectares;
- ◆ The establishment of a nursery to produce 250,000 Samba cuttings (and additional Cedrela and Gmelina cuttings);
- ◆ The creation of two cutting production centers (TENE and SANGOUE).

ITTO also funded a number of projects implemented by SODEFOR in the field of forest management. Since 1990, SODEFOR has had several project and pre-project proposals submitted to ITTO for financing. Of all these proposals, 16 projects and four pre-projects have received funding since 1994.

The list of projects and pre-projects financed by ITTO is contained in the following table:

Table 1: Summary of Projects and Pre-projects funded by ITTO

PD/PPD TITLE	DURATION	OBSERVATIONS
1. PD 109/90 Rev.4 (F,I): Support to modernization, restructuring and development policies for timber industries in Côte d'Ivoire	1994-2000	Completed
2. PD 18/92 Rev.2 (F): Determination of a forest typology related to silvicultural systems in the Gazetted forest of Haut Sassandra »	1996-2000	Completed
3. PD 3/95 Rev.2 (F): Genetic Resistance of Iroko to <i>Phytolyta lata</i> -- Phase I	1996-2000	Completed
4. PPD 13/96 Rev.1 (F): Study towards the establishment of a network of permanent sampling plots to monitor reforestation dynamics in Côte d'Ivoire	1997-1998	Completed
5. PD 51/97 Rev.2 (F): Regionalization of volume tables for natural and plantation forests	May 2002- May 2007	Completed
6. PD 22/98 Rev.1 (F): Development of Teak cloning and establishment of industrial plantations	1998-2006	Completed
7. PD 24/98 Rev.2 (F): Intensification of Teak forestry	1999-2002	Completed
8. PD 51/98 Rev.1 (F): Forest Fire Management in Côte d'Ivoire on an Experimental Basis	Jan 2000-June 2006	Completed
9. PPD 11/99 Rev.1 (I): Development of rubber wood industries in Côte d'Ivoire, Phase I	1999-2003	Completed
10. PD 53/00 Rev.3 (F): Implementation of a Permanent Network of Stands Dynamics Monitoring Plots for the Gazetted Forests of Côte d'Ivoire	July 2003 – Dec 2007	Completed
11. PPD 65/02 Rev.1 (F): Management and Conservation of Forests Seeds	19 Sept 05- 19 Dec 2005	Completed
12. PPD 123/06 Rev.1 (F): Controlling the Dieback and Decay Phenomenon in Plantation Species	July 2007-January 2008	Completed
13. PD 54/00 Rev.4 (F): Improving the genetic Resistance of Iroko to <i>Phytolyta lata</i> -- Phase II	Mars r 2007 –April 2012	Completed
14. PD 377/05 Rev.3 (F): Development of Cloning for Samba (Obeche), West African Mahogany Species and Propagation of Tiokoué Tree Species by Cuttings	January 2009 to 30 June 2013	Completed
15. PD 419/06 Rev 3 (F): Management and conservation of forest seeds	January 2009 to 30 June 2013	Completed
16. PD 419/06 Rev 3 (F) EXT.-TICAD5 Rev.1: Rehabilitation and Restoration of Degraded Forests in Côte d'Ivoire with the Involvement of Local Communities (Refugees, Internally Displaced People and Local Populations)	16 October 2013 – 16 October 2017	Completed

SODEFOR BUDGET

SODEFOR has administrative and financial independence even though it benefits from a grant from the Government of Côte d'Ivoire. The amounts achieved over the past three years, not counting the contribution from projects, breaks down as follows (in CFA francs):

(US\$1 = FCFA500)

Table 1: Budget of the SODEFOR 2018-2020

<u>FINANCIAL YEAR</u>	<u>COMPONENTS</u>	<u>BUDGET ('000 FCFA)</u>
<u>2018</u>	<u>Personnel + missions</u>	<u>4 395</u>
	<u>Sub-contracting (planting)</u>	<u>232</u>
	<u>Capital goods</u>	<u>109</u>
	<u>Consumable items</u>	<u>604</u>
<u>2019</u>	<u>Sub-contracting (planting)</u>	<u>4 669</u>
	<u>Capital goods</u>	<u>1 404</u>
	<u>Consumable items</u>	<u>193</u>
	<u>Sub-contracting (planting)</u>	<u>444</u>

<u>2020</u>	<u>Personnel + missions</u>	<u>4 247</u>
	<u>Sub-contracting (planting)</u>	<u>1 346</u>
	<u>Capital goods</u>	<u>227</u>
	<u>Consumable items</u>	<u>302</u>

Note: Mission and travel costs being linked to personnel, expenses for missions and those related to personnel are combined in a single category.

PERSONNEL

SODEFOR has a total staff of 908 officers distributed according to the following socio-professional categories:

Table 3: SODEFOR Personnel

<u>PROFESSIONAL CATEGORY</u>	<u>STAFF</u>
<u>OFFICERS HOLDING A UNIVERSITY DEGREE</u>	<u>102</u>
<u>MIDDLE-LEVEL TECHNICIANS / SUPERVISORS</u>	<u>627</u>
<u>EMPLOYEES AND LABOURERS</u>	<u>179</u>
TOTAL	<u>908</u>
According to status	
PERSONNEL	STAFF
OFFICIALS	<u>398</u>
CONVENTIONAL	<u>510</u>
TOTAL	<u>908</u>

III. Expertise of the Peleforo Gon University, Korhogo

PROJECT TITLES	FUNDING INSTITUTION AND REF	DURATION	OBSERVATIONS
1. Impact of climate and environmental change on migration in West Africa: Côte d'Ivoire and Senegal	CORAF/WECARD	2012- END 2000	Completed
2. Diversity of Woody Food Species: Characterization and rational management of resources and promoting their consumption in order to achieve better security	UNESCO N°:4500191244-A1	2012- 2014	Completed
3. Ecological intensification of extensive fish farming systems in West and Central Africa from an analysis of the innovation process; Extensive Fish Systems (SyPiEx)	CORAF/WECARD n°03/PA/05	2013- 2015	<u>Completed</u>
4. Improving the climate resilience of agricultural ecosystems along watershed landscapes by the Participatory Development of anti-erosion and fertilizing agroforestry systems in six West African countries (AM REACCAF)		2013- 2015	<u>Completed</u>

ANNEX 2: CVs OF KEY PERSONNEL PROVIDED BY THE EXECUTING AGENCY

PROJECT LEADER

Position	Coordinator of Reforestation Segment, Forest Investment Project—FIP Project
Function	Forestry expert in reforestation and forest management
Name and surname	Jean-Baptiste Constant Hangui YAPO
Date of birth	24/06/1966
Nationality	Ivorian
Country of résidence	Côte d'Ivoire

EDUCATION:

Institutions / Schools	Program Name	Year	Level / diplomas
Higher Institute of Agronomics, (ESA) Yamoussoukro	Specialization in Water & Forests	94-95	Agricultural engineer, major in water and forests
ENSA, Yamoussoukro	Agronomics	93-94	Diploma in agronomics
ENSA, Yamoussoukro	Prep classes, biology and mathematics	92-93	

PROFESSIONAL EXPERIENCE (starting from most recent)

Period	Employer / Position / Details of reference persons	Country	Key activities, in relation to assignment
March 2020	SODEFOR Contact: Mamadou Sangaré moidousangare@yahoo.fr	Côte d'Ivoire	Coordinator of Gazetted Forests Segment, Forest Investment Project—FIP Technical advisor, General Directorate in charge of forests In charge of reforestation of a 2000 ha area during fiscal year 2020 in Bouaké and Agboville, Forest Investment Project—FIP
July 2015 - March 2020	SODEFOR Contact: Mamadou Sangaré moidousangare@yahoo.fr	Côte d'Ivoire	Coordination of agricultural land use inventory project in the Cavally and Goin-Débé gazetted forests Coordination of reforestation operations over a 2 000 ha area in the Scio and Duékoué gazetted forests, TICAD-5 Project
2013-2016	SODEFOR	Côte d'Ivoire	Team manager of auditor team for management auditing of Bossématié, Besso, Agbo 1 and Mopri gazetted forests based on the ATO-ITTO Principles, Criteria and Indicators for Côte d'Ivoire, May 2013 Monitoring of reduced impact logging system

2015-2016	SODEFOR		<p>Co-trainer of Auditors in the ATO-ITTO Principles, Criteria and Indicators and Verifiers for Sustainable Management of Togo's forests, 28 January-30 January 2016</p> <p>Co-trainer of Auditors in the ATO-ITTO Principles, Criteria and Indicators and Verifiers for Sustainable Management of Mali's forests, 22-28 November 2015</p> <p>Monitoring of Terms of Reference for forest logging operators and reduced impact logging system</p> <p>Team Manager of team in charge of drafting Policy Framework for the Involuntary Resettlement (CPRI) of people infiltrated in gazetted forests, February-March 2015.</p>
2009-2011	SODEFOR	Côte d'Ivoire	In charge of developing management plans for the Goin-Débé and Cavally gazetted forests in partnership with the Wildlife Chimpanzee Foundation (WCF) with a view to taking into account wildlife in the management of both forests. Project funded by the French Facility for Global Environment (FFEM), French Development Agency (AFD), 2009-2011
2009	SODEFOR	Mali	Member of developing team for Reforestation Project in Alatona, Mali, SODEFOR, 2009
2007-2008	SODEFOR	Côte d'Ivoire	Project Leader assistant for teak silviculture and regeneration, 2007-2008

PROFESSIONAL ASSOCIATIONS:

Name of association :

President of Association of Agronomics Engineer Alumni, 1992 graduation year.

LANGUAGES:

Language	Reading proficiency	Spoken proficiency	Written proficiency
French	Fluent	Fluent	Fluent
English	Fair	Fair	Fair
Maternal language (Baoulé)	Fluent	Fluent	Fluent

ABILITY TO FULFILL MISSION:

Detailed description of tasks performed as part of consultant personnel team	Track record best indicative of competence
<p>Description of selected methodology</p> <p>Work timetable</p> <p>Implementation costs</p> <p>Selection of species</p> <p>Selection of planting stock</p> <p>Techniques for site preparation</p> <p>Identification of sites to be used</p> <p>Technique for site preparation</p> <p>Preparation of planting stock, planting technique for planting stock, technique for protecting and tending seedlings</p>	<p>Head of Reforestation Section: Responsible for monitoring SODEFOR's reforestation programme, March 1996-October 1997</p> <p>Head of Forest Management Section: Monitoring of reforestation activities implemented by three Territorial Divisions, October 97-September 99</p> <p>Division Head: Coordination of reforestation operations over a 3000 ha area in the Duékoué and Kassa gazetted forests (selection of sites, species, planting stock and site preparation) September 99-September 05</p> <p>Member of team in charge of developing reforestation project in Alatona, Mali: In charge of planning and operation cost evaluation; In charge of environmental and social safeguard measures, 2009</p> <p>Coordination of Gazetted Forests Segment, Forest Investment Project (FIP), involving reforestation of a 5000 ha area</p> <p>Expert in ATO-ITTO Principles, Criteria and Indicators for the Sustainable Management of Forest Plantations in Côte d'Ivoire</p>

PROJECT LEADER ASSISTANT

➤ CURRICULUM VITAE

➤ I – CIVIL STATUS

SURNAME : AMAKOU
NAMES : Brou Alphonse
DATE AND PLACE OF BIRTH : 18 APRIL 1968 in ADZOPE
MARITAL STATUS : Married, 4 children
NATIONALITY : Ivorian
ADDRESS : 01 BP 3770 ABIDJAN 01
Amakou_brou@hotmail.com
Telephone : 22 48 29 58 (office)
07 00 68 40

➤ II – EDUCATION

PERIOD	INSTITUTIONS	CYCLES	DIPLOMAS
1974-1980	EPP DE DAME et AGBAOU III	ELEMENTARY	CEPE
1980-1984	Lycée Moderne d'ADZOPE	1 st Secondary Cycle	BEPC
1984-1988	Lycée Moderne d'ADZOPE et Collège HOUËT	2 nd Secondary Cycle	BACALAUREATE (D SERIES, SCIENCES)
1990-1993	BOUAKE Agricultural Institute	University	Engineer in Water and Forestry Techniques

III – PROFESSIONAL EXPERIENCE

09/05/94-1/08/2000: Head of Production and Marketing Service, SODEFOR'S MANAGEMENT CENTRE, GAGNOA

02/08/2000-July 2003: Head of Silviculture and Forest Fire, SODEFOR, ABIDJAN

July 2003-to date: Assistant Director for Reforestation, SODEFOR, ABIDJAN

December 2008-February 2012: Assistant Director in charge of management and protection, SODEFOR

February 2012-to date: Assistant Director in charge of reforestation, SODEFOR, ABIDJAN

IV – PROFESSIONAL INTERNSHIPS AND TRAINING

01/02/2001-05/03/2001: Internship in mapping, database development using ACCES tool and GIS use in forestry, CAFSA, BORDEAUX, FRANCE

10/09/2004-25/09/2004: Internship in SIG establishment for the management of forest plantations in SODEFOR, BORDEAUX, France

17/10/2005-18/11/2005: Training course on forest protection and sustainable management, KUNMING, CHINA

17/07/2006-25/08/2006: Training course on the management (including certification), protection and use of forest resources (including certification), and their utilization for country development, HARBIN, CHINA

10-17 January 2014: Participation in prospecting mission on teak genetic improvement, Beyond Forestry event, Tel Aviv, Israel

21-29 June 2014: Participation in 22nd Session of Committee on Forestry (COFO), FAO, Roma, Italy

1-10 June 2019: Participation in prospecting mission on reforestation using Paulownia in en Bulgaria and Italy

V – LANGUAGES

First: French (spoken and written)

Second: English (spoken and written)

KOFFI Yeboa Alexis

Phd in Management Sciences, Water and Forest Engineer

nananyeboa@yahoo.fr +225 03 59 40 47/07 79 56 49

Forestry Professional: 26 years' experience

Climate Change, Natural Resource Management, Tropical Forestry, International Trade and Forest Economy, Economic Intelligence

PROFESSIONAL EXPERIENCE

- January 2017 **Consultant in Economic Intelligence**, Business and Management School
Trainer in Forest Economy, IT cycle, Ongoing Vocational Training School, Higher Institute of Agronomics (ESA), Yamoussoukro
- August 2016 **Assistant Director of Projects and Financing**, SODEFOR, Member of the reforestation working group for the National REDD + Program; In charge of the Mandated Independent Observation (IOM) Project in Yaya, Besso and Cavally gazetted forests, FLEGT/FAO
In charge of the Coulée verte market (since March 2021) - urban forestation of a 43 ha area in Abidjan
- June 2015-July 2016 **Research & Development and Certification Officer**, Technical Department, SODEFOR, Abidjan: seed tree conservation program, Seeds Project, monitoring of Téné and Sangoué plant material propagation trials and research devices and development areas: Yapo-Abbé, Mopri
Correspondent of the regional /FORIG-Ghana project "Development and implementation of a system for the identification of the species and the traceability of wood using DNA fingerprints and stable isotopes (Ghana, Côte d'Ivoire, Nigeria, Liberia): *Nauclea diderechii*, *Khaya ivoirensis*, *Khaya anthotheca*, *Lohira alata*, *Entandrophragma utile*
In charge of the Mandated Independent Observation (IOM) project in the Cavally Gazetted Forest, Project WCF-SODEFOR, FLEGT/FAO funding
- August 2014-May 2015 **Head of the Technical and Commercial Operations Department**, SODEFOR, San-Pedro: Monitoring of the rehabilitation program of 14 gazetted forests, 21 employees, Training in the audit of sustainable forest management
- February 2008- July 2014 **Head of Forest Management Unit**: management of 64,200 ha & 40,000 ha of forest in Guiglo and Fresco, Reforestation, Impact Mitigation of climate change
- Sept. 2006 – February 2008 **Head of Department**, Projects Directorate, SODEFOR, Abidjan: CDM and REDD + projects, community reforestation
Training by ITTO in Clean Development Mechanisms (CDM) in forestry
- October 2002-Sept. 2003 **Project manager**: urban afforestation, park and garden development in Abidjan
- October 1996-Sept. 2002 **Head of forestry sector**: 42,000 ha & 33,000 ha of forest; reforestation of 2200 ha, GIZ-SODEFOR project, trainer for delegates of the farmer-forest commissions-ACDI / PREFEP project-training in adult training; animation of IEC sessions in Bouaflé, Duékoué, Bangolo, Guiglo

TRAINING

2006-2010 **PhD in Management Sciences from the University of Paris 2 Panthéon-Assas, Paris, France:** Resilience of long-term oriented inter-company customer-supplier relationships in the international timber trade of Côte d'Ivoire

2005 – 2006 **Research Master in Management and International Trade at the University of Avignon and the Pays du Vaucluse, Avignon, France:** Industrial economics, Sustainable development, International trade, Management

Trade in timber from Cameroon to the Sudano-Sahelian Arc, Yaoundé, Cameroon, (CIRAD, Montpellier)

2004 – 2005 **Water and Forestry Engineer from the National School of Rural Engineering, Water and Forests (ENGREF) of Montpellier, France:** Rural and Tropical Forestry

CDM, REDD +, Climate change, Forest inventory, Natural resource management, Reforestation, Environmental services, Forest economics, GIS (House of Remote Sensing, Montpellier)

2003- 2004 **Engineer in Tropical Agronomy from the Center National d'Etude Agronomique des Régions Chaudes (CNEARC), Montpellier, France**

Technological innovations of the Rhincami agricultural group, Sokodé, Togo

1992-1994 **Forest technician**, Agricultural Institute of Bouaké (IAB), Côte d'Ivoire

LANGUAGES – COMPUTER SKILLS - OTHER

English: Professional level

Computer: Word, Excel, PowerPoint, Internet.

Promoter of rubber cultivation in the east of Côte d'Ivoire / VTT practitioner

Annex 3: Terms of Reference of personnel and consultants funded by ITTO

Terms of reference for conducting studies for timber species regeneration

Activity 1.1: Implement studies to understand and master the species' regeneration process

Budget component: 13. Consultants

Consultancy: Researchers from the University of Peleforo Gon Coulibaly (UPGC)

Context

Rural populations have always made use of natural resources, in this case African barwood. Knowledge, practices and know-how were accumulated over the years but are now ignored. However, these valuable advantages can be used by research work to develop this species.

With this in mind research work will be conducted with rural communities to identify these practices and knowledge to maintain the continued presence of this species.

Overall aim

To help to ensure that African barwood propagation is understood and harnessed.

Specific aim

To identify traditional practices and know-how about propagating and sustaining African barwood.

Activities

Activities are as follows:

- Conduct surveys in local villages regarding traditional knowledge of African barwood;
- Make an inventory of existing stands of African barwood;
- Produce a guide on traditional knowledge about propagating and sustaining African barwood.

Expected outcomes

Expected outcomes are as follows:

- Surveys in local villages have been conducted;
- Inventory data on stands of African barwood are available;
- A guide about traditional knowledge for propagating and sustaining African barwood is available.

Duration: 12 months

Terms of reference for conducting germination trials and tests

Activity 1.2: Conducting germination tests on the timber species

Budget component 13: Consultants

Consultancy: Researchers from the University of Peleforo Gon Coulibaly (UPGC) in Korhogo

Context

No extensive research has been conducted about the forest species known as African barwood. Consequently, very little relevant information can be found in scientific literature. This timber species is now endangered as a result of over-exploitation. To encourage its continued presence research needs to be mobilised to study its biology, propagation and enhancement.

Researchers from the University of Peleforo Gon Coulibaly (UPGC) in Korhogo have therefore been identified and will conduct trials and tests to understand and master the appropriate technical operations for developing this timber species.

Overall aim

To help to ensure that African barwood propagation is controlled and harnessed

Specific aim

To establish the technical operations for the germination and propagation of African barwood.

Activities

Activities are as follows:

- To establish the rootstock orchard;
- To establish the clone orchard;
- To conduct root suckering induction trials;
- To perform testing of cuttings of root segments;
- To monitor and control the activities conducted.

Expected outcomes

Expected outcomes are as follows:

- The rootstock orchard has been established and is operational;
- The clone orchard has been established and is operational;
- The root suckering induction trials have been performed;
- The testing of cuttings of root segments has taken place;
- The activities conducted have been monitored and controlled.

Duration: 12 months

Terms of reference for Korhogo Rural Facilitation (ARK) NGO for conducting Information, Education and Communication (IEC) campaigns relating to sustainable management practices

Activity 2.1: Conduct Information, Education and Communication (IEC) campaigns relating to sustainable management practices

Budget component 22.1: Information and communication with communities

Budget component 15.3: Education/training of people to produce improved stoves

Consultancy: Korhogo Rural Facilitation (ARK), a local NGO

Context

The sustainable management of natural resources is based on information, education and communication. This activity is directed at rural communities which are often the principal users of natural resource, and will provide them with sufficient information to ensure their involvement in the sustainable use and protection of these resources.

As far as the continued existence of African barwood and other natural resources is concerned, information and outreach messages will be sent to crop and livestock farmers, hunters and craftsmen, groups of women and young people. In addition, households will be trained to use improved stoves which consume less fuelwood for cooking.

This activity will be conducted by the ARK local NGO which is experienced in rural development, the management of natural resources and environmental control in the northern area of the Côte d'Ivoire.

Overall aim

To improve the participation of local communities in the protection process of the Palée and Boundiali gazetted forests.

Specific aims

- To develop awareness raising, education, training and organizing actions in neighboring villages targeting farmers, cattle breeders, craftsmen, women's and youth groups, etc.;
- To promote the use of improved stoves and other energy sources among the main users of forest by-products (information, demonstration, training and production).

Specific objectives	Activities	Stakeholders	Expected outcomes
To develop awareness raising and education, actions	- Conduct an exploratory mission in 13 villages neighboring the Boundiali gazetted forest and in 11 villages neighbouring the Palée gazetted forest; - Collect data from administrative structures; - Organize field visits in the villages	Local NGO staff, customary authorities, local communities, SODEFOR	- Communities, administrative and local authorities are informed about the project - Beneficiary villages are identified - Intervention area is identified and intervention strategy further is developed
	- Organize 10 awareness-raising sessions of populations on gazetted forest protection	Local NGO staff, village committees, communities, SODEFOR	- Neighboring village populations are aware and educated
To promote the use of improved stoves and other energy sources	Organize 10 awareness-raising sessions of populations on the significance of improved stove use for forest preservation	Local NGO staff, village committees, communities, SODEFOR	- Populations educated about the significance of improved stoves
	Train at least 5 households per village		- 120 households trained in improved

among the main users of forest by-products (information, demonstration, training and production)	in the construction of improved stoves	Local NGO staff, women's groups	stove construction techniques
	To assist households with the construction and use of improved stoves, and their maintenance	Local NGO staff, women's groups	- Households benefit from assistance in improved stove construction and use
	- Monitor project activities	Local NGO staff	- Project activities are monitored

Duration: 5 months

Terms of reference for establishing 200 ha of African barwood mixed with Teak and the establishment of 50 ha of fuelwood (*Cassia siamea*), applying the taungya system

Sub-contracting with local communities

Activity 2.3: Establish 200 ha of African barwood mixed with Teak and 50 ha of fuelwood (*Cassia siamea*), applying the taungya system

Budget component 23: Establishment of 200 ha of forest plots and 50 ha of fuelwood plots

Context

African barwood is overexploited to provide fuelwood, lumber and timber. This timber species is now endangered. Existing stands in the gazetted forests of Palée and Boundiali have not escaped this abusive exploitation. Its phenology and propagation are only partially understood. Forest officers now need to master cloning techniques appropriate for this timber species in order to sustain it.

The knowledge and techniques acquired will be used to establish 200 hectares of African barwood forest plantations in the gazetted forests of Palée and Boundiali. In addition 50 hectares of fuelwood will also be established to sustain this timber species and provide the local communities with supplies of fuelwood.

This activity will be sub-contracted out to local communities.

Overall aim

To contribute to ensuring the sustainability of African barwood.

Specific aims

The specific aims are as follows:

- To conduct reforestation work using African barwood over a 100 ha-land area in the Palée gazetted forest and a 100 ha-land area in the Boundiali gazetted forest;
- To conduct reforestation work using *Cassia siamea* over a 25 ha-land area in the Palée gazetted forest and a 25 ha-land area in the Boundiali gazetted forest.

Activities to be conducted

The activities to be conducted are as follows:

- Produce seedlings;
- Prepare 250 ha of land;
- Establish 200 ha of plantation with African barwood;
- Establish 50 ha of plantation with *Cassia siamea*;
- Tend the plantations established over 250 ha.

1) Expected outcomes

Expected outcomes are as follows:

- 450 660 seedlings are produced;
- 200 ha of African barwood plantations are established;
- 50 ha of *Cassia siamea* plantations are established;
- plantations established over 250 ha are tended.

Duration: 24 months

Terms of reference for activities to strengthen fire surveillance and control and to promote fire breaks

Sub-contracting with local communities

Activity 3.2: Strengthen fire surveillance and control

Activity 3.3: Promote fire breaks

Budget component 24.3: Establishing bushfire surveillance patrols;

Budget component 24.4: Creating fire breaks

Budget component 24.4: Tending fire breaks

Context

The forests in northern Côte d'Ivoire, and specifically the gazetted forests of Palée and Boundiali regularly experience bushfires. This is due to agricultural practices and the action of livestock farmers **practicing transhumance**. This situation leads to degradation of the forests and destruction of reforested areas.

Fire is actually a method employed by farmers to establish crops, provide a defence against wild animals, obtain game, help to renew pastures and clean up the outskirts of the village. However, it has become a threat, destroying the savanna, the forest, crops, plantations, townships and villages.

This threat is growing with increased drought, amplified by the effects of climate change. In view of this situation it is advisable to protect the forest and the forest plantations established to counteract this phenomenon in a sustainable way.

To achieve the project results, local communities are entrusted to carry out fire surveillance and control activities in order to strengthen their involvement in sustainable forest management.

Overall aim

To help to protect stands of African barwood.

Specific aims

The specific aims are:

- To strengthen fire surveillance and control;
- To promote fire breaks.

Activities to be conducted

The activities to be conducted are as follows:

- Arrange awareness-raising meetings;
- Carry out 6 fire surveillance missions;
- Establish 8 km of fire breaks;
- Tend 8 km of fire breaks.

Expected outcomes

Expected outcomes are as follows:

- Awareness-raising meetings have taken place;
- 6 fire surveillance missions have taken place;
- 8 km of fire breaks have been established;
- 8 km of fire breaks are tended.

Duration: 24 months

ANNEX 4: RECOMMENDATIONS OF THE 51ST ITTO EXPERT PANEL AND RESULTING MODIFICATIONS

PD 808/16 (F) Conservation of African Barwood (*Pterocarpus Erinaceus* Poir) in the Forest Reserves of la Palee and Boundiali in Northern Côte d'Ivoire with the Participation of Local Communities

Assessment by the Fifty-first Panel

A) Overall Assessment

The Panel recognized the importance of the project intending to contribute to the sustainable management of barwood ecosystems in Cote d'Ivoire through the conservation of the African barwood within the Palee and Boundiali Forest Reserves, in the Bagoue Region, Northern Cote d'Ivoire. However, it was noted by the Panel some weaknesses in the following sections and sub-sections: (1) origin of the project not clearly explained in relation to key stakeholders including local communities; (2) target sites of the project not adequately indicated on three different maps; (3) institutional set-up and organizational issues not elaborated in a comprehensive manner because local communities are not mentioned; (4) no key assumptions for the specific development, Output 1 and Output 2 provided in the logical framework matrix; (5) lack of consistency between the sub-causes of the Cause 3 in the problem tree (to be turned into activities in the objective tree) and activities listed under Output 3 in Section 3.1.2 and also in the work plan; (6) sub-activities listed under each activity in the section 3.1.2 and in the work plan, although it is not required in the manual for project formulation; (7) assumptions and risks not enough elaborated in relation to the logical framework matrix elements; (8) no terms of reference added in the annex for consultancy and sub-contracting items; (11) ITTO budget too high and not easy to be assessed due to the lack of the master budget table following the ITTO format.

Modifications resulting from the overall assessment

The Project origin was clearly explained in relation to key stakeholders, including local communities (1.1. Origin). The target sites of the project were indicated on three different maps. The institutional set up and organizational issues were elaborated in a comprehensive manner and local communities were mentioned (2.1.1 Institutional set- up). The key assumptions were detailed for the specific objective, outputs 1 and 2 were provided in the logical framework matrix (2.14 Logical framework matrix). The sub-causes of the cause 3 in the problem tree and activities listed under output 3 in section 3.1.2 as well as in the work plan were made consistent. Assumptions and risks were elaborated in relation to the logical framework matrix. The terms of reference for consultancy and subcontracting items work were added in the annex. The ITTO budget was revised and the master budget table was added.

B) Specific recommendations and resulting modifications

Modifications were made in the project document in compliance with the specific recommendations.

The modifications resulting from the specific recommendations are shown in the following table.

N°	Expert Panel recommendations	Resulting modifications	Pages
1	Improve the origin of the project by adding information related to local communities to be considered as part of key stakeholders	The origin of the project was improved and the local communities taken into account.	7
2	In addition to map of Cote d'Ivoire, provide a map of the project target area with appropriate scale and clearly indicate the project sites on it;	A map showing the project sites was added.	10-11
3	Improve the institutional set-up and organizational issues by including local communities as they are among primary stakeholders;	The institutional set-up and organizational issues were improved by including the role of local communities.	15
4	Revise the problem tree and associated objective tree while making sure to get consistency between the sub-causes of Cause 3 (bush fire control) with activities to be listed under the Output 3 in the Section 3.1.2 and in the work plan;	The logical framework matrix was improved by adding indicators appropriate to the development objective and key assumptions appropriate to the specific objective as well as to outputs 1 and 2. Also the specific objective indicators and outputs 1, 2 and 3 were improved subsequent to modifications.	22
5	Amend the Section 3.1.2 and the work plan by deleting sub-activities, listed under each activity, as they are not required for the formulation of a project proposal but only for the preparation of a	The sub-activities listed under each activity were all deleted and the work plan was improved.	24

	yearly plan of operation for the project implementation;		
6	Further elaborate the assumptions, risks and sustainability in accordance with the improved logical framework matrix;	Assumptions, risks and sustainability were further elaborated in accordance with the improved logical framework matrix.	44
7	Add the terms of reference of all relevant consultancy and sub-contracting items as annexes	The terms of reference of all relevant consultancy and sub-contracting items were added as annexes.	54
8	Amend the ITTO budget in line with the above overall assessment and specific recommendations and also in the following way: a) Add the master budget table following the ITTO format, in order to facilitate the assessment of budget tables (ITTO and executing agency), b) Significantly scale down the ITTO budget by transferring some budget costs from ITTO contribution to the counterpart contribution [training of SODEFOR Staff and researcher workers (budget item 16) and maintenance of 7,000 ha plantation (under budget component 20)] and also by reducing the budget costs and while making sure to provide appropriate justification in the implementation approach [seedling production (under budget component 20), 1 vehicle (budget item 43) instead of 2, monitoring committee (under budget component 60, some budget items under budget component 20, some budget items under budget component 30, and some budget items under budget component 50), c) Adjust the budget item 81 to the standard rate of US\$10,000.00 per year (instead of US\$20,000.00 per year) for the monitoring and review costs (US\$30,000 for 3 years), d) Recalculate the ITTO Programme Support Costs (sub-item 83) so as to conform with standard rate of 12% of the total ITTO project costs (on budget items 10 to 82); and	The ITTO budget was amended in accordance with the overall assessment and specific recommendations. a) The master budget table was added. b) ITTO budget was significantly reduced. c) Budget item 81 was adjusted to the standard rate of US\$10 000.00 per year. d) The ITTO Programme Support Costs (sub-item 83) were recalculated to the standard rate of 12% of the total ITTO project costs.	34-43
9	Include an Annex that shows the overall assessment and specific recommendations of the 51st Expert Panel and respective modifications in tabular form. Modifications should also be highlighted (<u>bold and underline</u>) in the text.	The Annex showing the overall assessment and specific recommendations of the 51st Expert Panel and respective modifications in tabular form was added. Modifications were highlighted in bold and underlined in the text.	56-59

C) Conclusion

Category 2: The Panel concluded that the project proposal requires essential modifications and will be returned to the proponent. The Panel will need to assess the revised project proposal before it can commend it to the Committee for final appraisal.

ANNEX 5: RECOMMENDATIONS OF THE 53RD ITTO EXPERT PANEL AND RESULTING MODIFICATIONS

PD 808/16 (F) Conservation of African Barwood (*Pterocarpus Erinaceus* Poir) in the Forest Reserves of la Palee and Boundiali in Northern Côte d'Ivoire with the Participation of Local Communities

Assessment by the Fifty-third Panel

A) Overall Assessment

The Panel recognized the relevance of the project and acknowledged that efforts had been made to address the comments in the overall assessment and specific recommendations made by the Fifty-first Expert Panel. However, the Panel noted that there were still important weaknesses in many sections and sub-sections of the project proposal intending to contribute to the sustainable management of barwood ecosystems in Côte d'Ivoire through the conservation of the African barwood within the Palee and Boundiali Forest Reserves, in the Bagoue Region, Northern Côte d'Ivoire.

Those weaknesses were noted in the following sections and sub-sections: (1) target sites of the project were still not adequately indicated on three different maps; (2) key assumptions for the Specific Development, Output 1 and Output 2 provided in the Logical Framework Matrix were still weak and only focusing on key assumption dealing with prolonged drought; (3) lack of appropriate impact indicators under the Development Objective, while there were no outcome indicators under the Specific Objective in the Section 2.2; (4) assumptions and risks still not enough elaborated due to the weak column of key assumptions in the Logical Framework Matrix; (5) terms of reference for Master degree and PhD programmes added as annexes with those of consultants; (6) ITTO budget too high and not easy to be assessed due to the lack of explanation for some budget components and sub-components, while keeping in mind that ITTO budget (which is smaller in size compared to other financial donors like World Bank and European Union) is supposed to cover the costs of establishing forest plots for the demonstration purpose and for drawing lessons to be disseminated to stakeholders. Finally, the Panel noted that the ITTO contribution was inadvertently planned to be used for the funding of the Master degree and PhD programmes of students, while the numbering was missing for many components and sub-components in the budget table by source (ITTO and Counterpart contribution).

Modifications resulting from the overall assessment

The target sites of the project were indicated on three different maps; the key assumptions for the Specific Development, Output 1 and Output 2 provided in the Logical Framework Matrix were improved; appropriate impact indicators under the Development Objective, and outcome indicators under the Specific Objective in the Section 2.2 were added; assumptions and risks were added and improved in the Logical Framework Matrix; the annexes containing the terms of reference for Master degree and PhD programmes were deleted; the ITTO budget was reduced and clear explanations were provided for some budget components and sub-components in accordance with ITTO guidelines, as a result the amended budget covers the costs of forest plots to be established for demonstration purposes. Funding allocated for master and PhD programmes were deleted in the budget. The component and sub-component numbering in the budget table by source (ITTO and counterpart) was inserted.

B) Specific recommendations and resulting modifications

Modifications were made in the project document in compliance with the specific recommendations.

The modifications resulting from the specific recommendations are shown in the following table.

N°	Recommendations of the Expert Panel	Modifications	Pages
1	Improve the maps of the project target area by clearly indicating the project sites on them	The maps of the project target area were improved. The project target areas were clearly indicated.	11-12
2	Further improve the Logical Framework Matrix by appropriately amending the indicators of the Development Objective and some outcome indicators of the Specific Objective, as well as by adding other appropriate key assumptions for the Specific Objective, Output 1 and Output 2, in relation to the findings of the problem analysis and related problem tree, as well as in relation to the main results of the stakeholders analysis	The Logical Framework Matrix was improved by amending the indicators of the Development Objective and of the Specific Objective. In addition, assumptions for the Specific objective, Output 1 and Output 2 were clarified and improved in relation to the findings of the problem analysis and related problem tree, as well as in relation to the main results of the stakeholders analysis.	24-26
3	Add the appropriate impact indicators under the Development Objective and add the appropriate	The impact indicators under the Development Objective and the	26

	outcome indicators under the Specific Objective in Section 2.2, in relation to the elements of the Logical Framework Matrix	outcome indicators under the Specific Objective in Section 2.2, in relation to the elements of the Logical Framework Matrix were added.	
4	Adjust some parts of the Section 3.2 (implementation approaches and methods) in order to comply with the suggestion of the Panel to focus on the establishment of forest plots for demonstrations with the surface area reduced to 100 hectares for each of the two project sites (Palée and Boundiali)	Some parts of the Section 3.2 ont were amended by taking into account the establishment of African barwood plantations over 100 hectares in both project areas (Palée et Boundiali).	27-29
5	Further elaborate the assumptions and risks in the section 3.5 in accordance with the improved Logical Framework Matrix	The assumptions and risks in the section 3.5 were further elaborated in accordance with the improved Logical Framework Matrix.	41-42
6	Keep only the terms of reference of all relevant consultancy and sub-contracting tasks as annexes and delete those regarding the Master degree and PhD programmes (which are supposed to be in consideration within the framework of ITTO Fellowship Programme)	The terms of reference regarding the Master degree and PhD programmes were deleted. The focus was placed on relevant consultancy and sub-contracting tasks as annexes.	55-57
7	Amend the ITTO budget in line with the above overall assessment and specific recommendations and also in the following way: a) Add the numbering to each component and sub-component of the budget table by source (ITTO and Counterpart contribution), b) Significantly scale down the ITTO budget with the new approach proposed by the Panel regarding the establishment of forest plots for demonstration (100 hectares for the site of Palée and 100 hectares for the site of Boundiali) and drawing lessons.	The ITTO budget was amended in line with the above overall assessment and specific recommendations and also in the following way: a) The numbering for each component and sub-component of the budget table was added; b) The ITTO budget was significantly scaled down with the new approach proposed by the Panel regarding the establishment of forest plots for demonstration (100 hectares for the site of Palée and 100 hectares for the site of Boundiali) and drawing lessons.	31-39

ANNEX 6: RECOMMENDATIONS OF THE 54th ITTO EXPERT PANEL AND RESULTING MODIFICATIONS

PD 808/16 (F)

Sauvegarde du bois de Vène (*Pterocarpus erinaceus* Poir) dans les forêts classées de la Palée et de Boundiali au nord de la Côte d'Ivoire avec la participation des populations riveraines

Assessment by the 54th Expert Panel

A) Overall Assessment

The Panel reiterated the relevance of the project's objective intending to contribute to the sustainable management of some forest ecosystems in Cote d'Ivoire through the conservation of the African Barwood (*Pterocarpus erinaceus* Poir) within the Palee and Boundiali Forest Reserves, in the Bagoue Region, Northern Cote d'Ivoire. It was recognized that efforts had been made to address most of the comments in the overall assessment, as well as most of the specific recommendations, made by the Fifty-third Expert Panel. However, the Panel noted that there were still a need for improvement for some sections and sub-sections of the revised project proposal.

The need for improvement was still needed in the following sections and sub-sections: (1) Logical Framework Matrix (LFM) in which some outcome indicators (for the specific objective) were entirely or partially repeated in Output 1, Output 2 and Output 3 without taking into account the need to differentiate the intervention strategy scope of the specific objective from that of Outputs; (2) most annexed terms of reference for specialists were not matching with the work plan in which they are not explicitly mentioned in the column of responsible party for the implementation of activities. This was due to the fact that some terms of reference of subcontracting partners were provided in annexes without a clear title; (3) the comments and specific recommendations of the 51st Expert Panel was missing for the ease of reference by the reviewers of the revised project proposal.

Modifications resulting from the overall assessment

In the Logical Framework Matrix, the outcome indicators (for the specific objective) were adjusted while taking into account the scope of the specific objective intervention strategy; in addition, the outcome indicators 1, 2 and 3 were also improved. The annexed terms of reference for specialists were clarified. Appropriate information was clearly included in the column of responsible party for the implementation of activities; the comments and specific recommendations of the 51st Expert Panel were added as an annex.

B) Specific recommendations and resulting modifications

N°	Expert Panel recommendations	Resulting Modifications	Pages
1	1. Furthermore improve the Logical Framework Matrix by appropriately amending the indicators of the specific objective, as well as those of the Output 1, Output 2 and Output 3, while taking into account the intervention strategy scope of the specific objective which is different from that of outputs, as explained in the ITTO manual for project formulation (third edition, 2009) from page 32 to page 36 (in the English version);	The Logical Framework Matrix was improved by amending the specific objective indicators, as well as those of outcome indicators 1, 2 and 3.	24-25
2	2. Improve the terms of reference of all relevant consultancy and sub-contracting tasks included or to be included as annexes, while making sure to clearly identify each of them with a title correlated to the Work Plan and the budget items regarding the sub-contracting tasks. Subsequent to the improvement of the terms of reference, each relevant subcontracting partner should be added in the column of responsible party of the Work Plan (for each activity involving a subcontracting partner for its implementation);	The terms of reference of all relevant consultancy and sub-contracting work were included as annexes and their titles clarified. The required information was included in the column "Responsible party" in the work plan according to the subcontracting partners involved.	55-60 30
3	3. Include an Annex that shows the overall assessment and specific recommendations of the 54 th Expert Panel and respective modifications in tabular form, as well as those of the 51 st and 53 rd Expert Panel. Modifications should also be highlighted (<u>bold and underline</u>) in the text.	The overall assessment and specific recommendations of the 54 th Expert Panel and respective modifications in tabular form, as well as those of the 51 st and 53 rd Expert Panel were added as annexes. See Annexes 4, 5 and 6	61-68

C) Conclusion

Category 1: The Panel concluded that the proposal could be commended to the Committee with incorporation of amendments.

Annex 7: Recommendation of ITTC-58

PD 808/16 (F)

Conservation of African barwood (*pterocarpus erinaceus* poir) in the gazetted forests of La Palee and Boundiali in northern Cote d'Ivoire with the participation of local communities

The project was partially funded by the Government of Japan for an amount of US\$320 000.

As a result of project partial funding (US\$320 000 vs. US\$566 488 initially), the relevant sections and sub-sections in PD 808/16 Rev.4 (F) project document were revised based on the restructuring of project implementation in two phases, as follows:

- **Phase I, duration of 18-24 months**, funded by ITTO for an amount of US\$320 000 as pledged during ITTC-58.
- **Funding for Phase II, duration of 12-18 months, is yet to be secured and will be sought among ITTO donors.**

The budget tables for ITTO budget contribution were revised based on project restructuring into two phases.

N°	Recommendations by Expert Panel	Resulting modifications	Pages
1	Revised description in sections and sub-sections	In the logical framework and the description of project interventions, the areas to be reforested were reduced as follows: from 250 ha initially (200 ha for African barwood and 50 ha for fuelwood), they were reduced to 230 ha, including 180 ha for African barwood/teak and 50 ha for fuelwood.	24-29
2	Budget tables	The budget tables for ITTO budget contribution were revised as follows: US\$320 000 for Phase 1 and US\$246 488 for Phase 2. The budget tables for the Executing Agency's budget contribution were also revised as follows: (from US\$262 230 initially to US\$262 221). The total project budget is now US\$828 718 vs. US\$828 709 initially.	35-51