INTERNATIONAL TROPICAL TIMBER ORGANIZATION

ITTO

PROJECT PROPOSAL

TITLE	SUSTAINABLE MANAGEMENT OF PRODUCTION FORESTS AT THE COMMERCIAL SCALE IN THE BRAZILIAN AMAZON – PHASE II
SERIAL NUMBER	PD 452/07 Rev.5 (F)
COMMITTEE	REFORESTATION AND FOREST MANAGEMENT
SUBMITTED BY	GOVERNMENT OF BRAZIL
ORIGINAL LANGUAGE	ENGLISH

SUMMARY

The present project proposal is a follow up of the project PD 57/99 Rev.2 (F) "Sustainable Management of

Production Forests at the Commercial Scale in the Brazilian Amazon – Phase I" with the final objective to encourage the adoption of good forest management practices by timber enterprises in the Brazilian Amazon. In its first phase, the project developed and validated, in collaboration with two timber enterprises, a set of silvicultural and managerial tools to support enterprises working in *terra firme* forests of the Brazilian Amazon in planning, implementing and monitoring its operations to achieve sustained financial benefits under current and foreseeable environmental and social conditions. The here presented second phase of this project focus on the transfer of these tools to timber enterprises in the Amazon. In particular, the project will consolidate the tools for Sustainable Forest Management - SFM developed in the first phase, build capacity of training centres and universities of the Amazon region to transfer the SFM tools to timber enterprises and government environmental agencies responsible for forest management, evaluate the direct and indirect impacts of transferring the SFM tools to timber enterprises, and disseminate project achievements and products to a large audience of relevant stakeholders. The project-executing agency is the Brazilian Agricultural Research Corporation, Eastern Amazon Embrapa. **The Ministry of Environment - MMA through the Brazilian Institute for**

Environment and Natural Renewable Resources – IBAMA - and its Forest Management National Support Centre – CENAFLOR, the Brazilian National Forestry Programme - PNF, and the Brazilian Forest Service - SFB will be main partner institutions in this Project, together with ITropical Forest Institute - IFT. The Ministry of Environment - MMA through SFB who is in charge of managing Public Forests in Brazil is presently establishing the first forest concessions in the country. The Brazilian Amazon is the key region to start the process. The concessionaires are required by contract to apply good management practices in the forest. The application of those practices will be monitored by IBAMA and by SFB. Thus training in the use of the forest management tools developed by the project in its first phase by the concessionaires is of utmost importance. To accomplish this goal, CENAFLOR will play an important role regarding the support to train the concessionaires in applying the tools. The Centre for International Forestry Research - CIFOR and the University of Freiburg (ALU-FR) will collaborate with institutional support. In addition, a number of governmental and non-governmental institutions in the region will participate or benefit from the project.

EXECUTING AGENCY	Embrapa Amazonia Oriental (Embrapa), Belém, Pará
COOPERATING GOVERNMENTS	Brazil
DURATION	36 MONTHS
APPROXIMATE STARTING DATE	TO BE DETERMINED

BUDGET AND PROPOSED SOURCES OF FINANCE	Source	Contribution in US$	Local Currency Equivalent
	ITTO	**656,630**	
	EMBRAPA	576,807	
	MMA	263,271	
	IFT	50,850	
	TOTAL	**1,547,558**	

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PART I: THE CONTEXT

1. Origin

The present proposal is the 2nd phase of the project PD 57/99 Rev.2 (F) "Sustainable Management of Production Forests at the Commercial Scale in the Brazilian Amazon", approved in the year 2000. Initial aim of the 1st projects' phase, which will finish in January 2008, was the development and validation of a set of managerial and silvicultural tools for good forest management. These tools have been developed in close collaboration with two commercial enterprises: *Juruá Florestal S.A.* and *Cikel Brasil Verde Ltda*, and a number of technical and scientific partners, in particular: CIFOR – the Center for International Forestry Research, IFT – Instituto Floresta Tropical, UFRA – Universidade Federal Rural da Amazônia, IBAMA / Promanejo – Instituto Brasileiro do Meio Ambiente e dos Recursos Naturais da Amazônia / Projeto de Apoio ao Manejo Florestal, the University of Freiburg in Germany and the EMBRAPA/ Dendrogene Project – Conservação Genética de Florestas Manejadas na Amazônia Brasileira. As planned in the beginning of the project, the here presented 2nd project phase intends to disseminate the developed tools for good forest management to a larger universe of enterprises throughout the Amazon. In particular, the following main achievements of the project's 1st phase will build the basis for the 2nd phase's activities:

1. Validated technical guidelines for Reduced Impact Logging in upland forests (*terra firme*) of the Brazilian Amazon
2. A set of computer-based tools, guidelines and manuals to support the effective implementation of SFM by timber enterprises
3. An auditing method for forest management plans developed in collaboration with the Brazilian government agency for environment (IBAMA) already implemented as standard procedures for the audit of management plans for upland forests in the Brazilian Amazon
4. C&I-based methodology for the assessment and monitoring of industrial-scale forest management operations

In addition, the 1st project phase successfully played a significant role in the promotion of SFM in the Amazon through the

5. Engagement in the support of enterprises to achieve FSC-certification (since 2001 over 150.000 ha of forests have been certified with project's support)
6. A number of scientific publications (over 50 since 2000, see Annex D) based on the project's work and that of project collaborators with research and outreach activities in the forest management units of the partner enterprises.

It is also relevant in the context of this proposal to highlight the experience accumulated by the project in organizing and providing training on the use of the developed silvicultural and managerial tools for SFM. There has been also a number of intense working contacts established with training centers and a wide range of relevant stakeholders from the government, the private sector, NGOs and research and academic centers for promoting SFM in the Brazil and other Amazon countries.

SFM tools

As mentioned above, one the core technical work of the project's 1st. phase focused on the development and testing of a set of forest management tools, referred to as *SFM tools*[1]. In the context of this paper, two sets of SFM tools are distinguished: *computer tools* (software and respective user's manuals) and *guidelines.* It is exactly these tools to be disseminated in the 2nd phase. Table 1 lists in detail the silvicultural and managerial tools developed in collaboration with two partner timber enterprises, and - in the case of the guidelines and manual for auditing forest management plans - also with direct participation of IBAMA staff in three Amazon states.

[1] *SFM tools are means to assist a forest enterprise in the planning, implementation, evaluation and monitoring of its operations to achieve sustained economic benefits under current and foreseeable environmental and social conditions. There are two types of tools: silvicultural, including tools, e.g. for planning timber harvesting and monitoring forest growth, and managerial tools e.g, for the economic planning and control of the enterprise's operations.*

Table 1. Tools to support the implementation of good forest management practices by timber enterprises developed in the project' s 1st. phase to be disseminated in the projects' 2nd phase

Type of SFM tool	SFM tool - Description *(original name in italics)*
Computer tools	1. Monitoring Forest Dynamics *Monitoramento da Floresta Tropical – MFT*
	2. Harvesting Planning and Control of Forest Production *Planejamento da Colheita e Controle da Produção Florestal – PLANEJO*
	3. Development of Volume Equations *Desenvolvimento de Equações de Volume – SMALIAN*
	4. Economic Monitoring of Forest Operations *Monitoramento Econômico das Operações Florestais – MEOF*
	5. Monitoring of Enterprise Operational Performance *Monitoramento da Performance Operacional do ManejoFlorestal – MOP*
Guidelines	6. Guidelines for Good Forest Management in Terra Firme Forests of the Brazilian Amazon *Diretrizes Técnicas de Manejo para Produção Madeireira Sustentável em Florestas de Terra Firme na Amazônia Brasileira*
	7. Guidelines for Book-keeping of Forest Operations *Diretrizes para Contabilidade das Operações Florestais*
	8. Guidelines for Assessing Social Work in Forest Management *Diretrizes para Avaliação dos Aspectos Sociais no Manejo Florestal*
	9. Guidelines and Manual for Auditing Forest Management Plans *Diretrizes e Manual para Vistoria de Planos de Manejo Florestal Sustentável*

For each of the five computer tools a software and corresponding manual were prepared and made available at the project's website. The four management guidelines are also available in the same location.

2. Sectoral policies

The Brazilian forest policy for the utilization of the tropical rain forests in the Amazon region introduced the concept of Sustainable Forest Management in the year 1965 through the Brazilian Forest Act, Law Nº 4.771. In 1995, the Decree 1282 regulated Article 15 of the Brazilian Forest Act for forest management activities in the Brazilian Amazon. Instruction 4 established the rules for forest management plans in the region.

Presently Decree 1282 and Instruction 4 are under revision. The review focuses on five articles of the Forest Act and deals with forest management plans, deforestation for alternative use of the soil, reforestation and transport of forest products. The already proposed new instruction establishes rules for the preparation of forest management plans and introduces new concepts such as yield regulation and technical guidelines to be followed by foresters. A new concept of auditing forest management plans was also developed, based on sets of criteria and indicators developed in the projects' first phase in cooperation with IBAMA.

On March 2006 the Brazilian Congress approved Law 11.284, which regulates the management of public forests for sustained use, creates the Brazilian Forest Service (SFB) and the National Fund for Forestry Development, and decentralises the management of public forestlands. The concept of forest concessions in public lands in the Amazon region was introduced.

3. Programmes and operational activities

The National Forest Programme (PNF) was created in 2000 aiming to articulate public policies to promote sustainable development through the use and conservation of forest resources. The programme, coordinated by the Ministry of Environment, involves ten ministries and is executed with the support of the National Commission of Forests (CONAFLOR). Funding is made available by the National Treasure, ITTO, the PPG7 and GEF. PNF lines of action involve regulation, credit, technical assistance, information and research, monitoring and control and forest incentives.

The Forest Management National Support Centre (CENAFLOR) was created by IBAMA in 2003 with the objective of promoting the adoption of good forest management practices amongst different stakeholders, with especial emphasis to the Brazilian Amazon. One of its main goals is to establish a network of forest management training centres in the Amazon region (see map in Figure 1). As strategy to achieve its objectives, CENAFLOR seeks the cooperation from several *ad hoc* institutions such as the National Forest Programme, the Brazilian Forest Service, IBAMA/ PPG7 /Promanejo, universities, technical schools and research organizations.

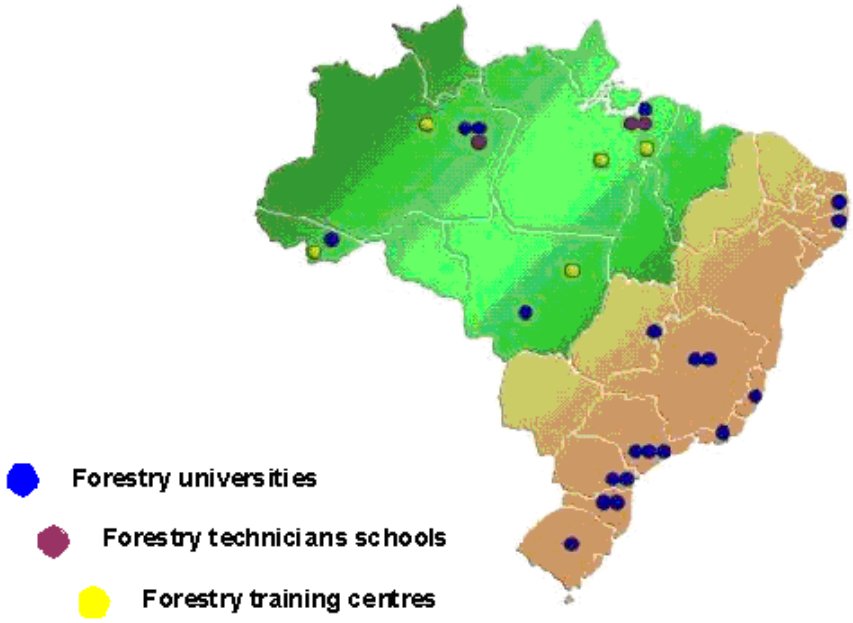

Figure 1. *CENAFLOR training centres*

New developments in the Brazilian forest policy were launched in February 2006, when the first Forestry District in the Amazon region was created along the Santarém - Cuiabá Highway (BR 163). The District encompasses 190,000 km^2 and six industrial development areas. About 4.5 to 7.5 million m^3 of logs are expected to be produced yearly, generating around 100,000 direct jobs and US$ 400 million of gross income.

In cooperation with the responsible governmental agencies, the projects' 2^{nd} phase will directly support these programs by building technical capacity in the training centres and universities in order to prepare trainers to attend an expected growing demand from the forestry sector.

PART II: THE PROJECT

1. Project objectives

1.1 Development objective

To encourage the adoption of sustainable forest management (SFM) by medium and large size timber enterprises in *terra firme* forests of the Brazilian Amazon.

1.2 Specific objective

Increase the efficiency of relevant training and dissemination organisations to foster the adoption of SFM tools by timber enterprises and government environmental agencies responsible for forest management in the Amazon.

2. Justification

2.1 Problems to be addressed

The Brazilian Amazon[2] extends over 5 million hectares, 80% of which is under forest cover. With nearly 20 million inhabitants, the region contributes to around 6.5% of the country's GDP (Lentini *et al.* 2003). Table 2 shows some statistics of the timber sector in the Brazilian Amazon. In 2004 the estimated 3,100 timber operators based in the region extracted 24.5 million m^3 round wood, representing 80% of the country's production from native forests.

***Table 2**. Main characteristics of the timber sector in the Brazilian Amazon, 2004**

Item	***Estimated value***
Consumption of round wood	24.5 million m^3 per year
Processed production	10.4 million m^3 per year
Total contribution to gross income	2.3 US$ billion per year
Number of timber enterprises	3,100 (2,146 excluding micro-sawmills consuming less than 1,500 m^3 of round wood per year)
Number of direct and indirect jobs	380,000
Timber exports	3.7 million m^3 per year
Value of timber exports**	943 US$ million per year
Characteristics of timber extraction	60% carried out by third parties (extractors) 40% carried out by timber enterprises

* Sources: Lentini *et al*. (2005) and MDIC (2005). ** Source: MDIC (2005).

Since 1990, a number of research and demonstration programmes have been carried out to promote the adoption of forest management in the region, such as those developed by the cooperation EMBRAPA - CIFOR (in the municipalities of Moju, Tailândia and Paragominas in Pará State), IMAZON (in Paragominas, Pará), IFT (several pilot areas in Pará and Mato Grosso) and FUNTAC (Floresta Estadual do Antimary, in Acre State). On the policy arena, the adoption of forest management is one of the major priorities established by the Brazilian National Forest Programme, launched by the Ministry of Environment in 2000 and operating since 2003 under the new federal administration. The promotion of forest management is also one of the priorities of the state governments of Acre (since 1999) and Amazonas (from 2003).

[2] *Defined as "Legal Amazon", a geo-political definition of the Amazon region that comprises the states of Amapá, Amazonas, Acre, Maranhão, Mato Grosso, Pará, Rondônia and Tocantins.*

Nevertheless, although the available technologies for good forest management in the Brazilian Amazon have been significantly improved over the last two decades, the progress with regards to their adoption by timber enterprises is still modest. Most logging operations are still using conventional methods that threaten forest sustainability. It is estimated that barely 4% of the timber extracted in the region originates from well-managed forests. In this context, Figure 2 illustrates a brief analysis of this key problem: the low level of adoption of SFM practices by timber enterprises in the region.

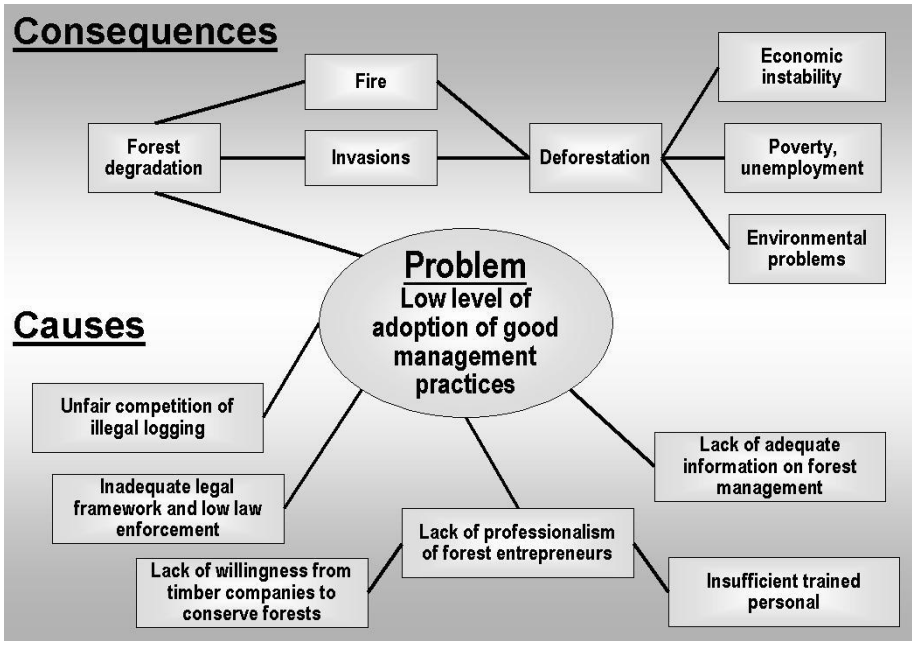

Figure 2. *Problem analysis*

The low level of adoption of SFM practices by timber enterprises in the region results in the economic and environmental degradation of forest resources, ultimately leading to deforestation. A study carried out in collaboration with the project's 1st phase (Sabogal *et al.* 2006) revealed a bunch of causes responsible for this unfavourable situation. Although significant improvements have been made over the past few years in forest regulations and the strengthening of governmental organizations for law enforcement, good forest management still suffers from a competitive financial disadvantage. Most timber enterprises don't have the capacity required for effectively using the commercial potential of marketing legal wood. In addition, especially in the long run, managed forests are exposed to high risks with regards to illegal harvesting of remaining trees, invasion by squatters and conversion into agricultural land.

Most critical, however, is the general low level of professionalism of the sector to be found at all enterprise levels, including forest managers, administrative staff as well as forest engineers, operators and forest workers, who are working with management tools far away from being suitable with regards to the existing demands and capacities of the sector. But also the mechanisms for transfer and dissemination of SFM knowledge and technologies to the commercial sector are not very effective. Many of the training centres and forest extension agencies recently established by the Brazilian government and the governments of the Amazonian states work with improper diffusion strategies and, worst of all, don't have the possibility to analyse and reflect about the effects of their efforts as an essential basis for adjustments needed for more successful dissemination of SFM to Amazonian timber enterprises. In the view of recent, positive developments of the Brazilian governments for the promotion of SFM in the Amazon, action are necessary to support organisations for training and dissemination of SFM to effectively disseminate knowledge, technologies and tools to the commercial sector to enterprise managers, forest engineers, operators and forest workers to guarantee the professional management of Amazonian forests as a crucial precondition to achieve sustainability.

The Brazilian government has recently reformulated the country's legal and administrative forestry framework seeking to improve forest utilization in all Brazilian biomes. The new law concerning the management of public forests (Law 11.284) establishes three management models: (i) creation of conservation units, including those destined to sustainable use such as National Forests; (ii) destination to communal use such as extractives reserves, sustainable development reserves, etc.; and (iii) the establishment of the concession system through competitive bidding. In addition, this new law has created the Brazilian Forest Service (Serviço Florestal Brasileiro - SFB), which will be the manager of the National System of Public Forests. SFB's mission is to develop and maintain the Brazilian Forest Information System and manage the National Forest Development Fund. Law 11.284 also decentralizes forest management transferring to the states the control of forest activities on state and private forest lands.

The Brazilian government has also published a new instruction regulating forest management plans and introduced a new concept to audit forest management in the field based on criteria and indicators of good management developed during the 1st project phase in close collaboration with IBAMA. Furthermore a new process to control the origin of forest products thru the Document of Forest Origin (Documento de Origem Florestal – DOF) has been introduced. It is to be expected that all these measures will strongly improve law enforcement.

Those policy and institutional steps and measures underway will encourage the Amazonian forest sector to adopt good management practices in their operations. Especially for concessions, adequate qualification will be crucial for the enterprises, as minimizing impacts is one of the key criteria for selecting winner bids to concessions. Furthermore, the new auditing procedures will require timber enterprises to keep permanent trained teams in their forest management units. As a consequence the demand for training on good forest management will drastically increase during the next years. In this situation, the government has to ensure the provision of sufficient and adequate training opportunities to the sector.

2.2 Intended situation after Project completion

This project will directly contribute to current governmental efforts to encourage the application of good forest management practices by timber enterprises in the Brazilian Amazon. Through analysing the economic, environmental and social effects of the strategies applied by relevant governmental and private institutions for transferring good forest management practices to the sector, the effectiveness of technology transfer efforts will increase and so the adoption of good forest management practices by timber enterprises in the Brazilian Amazon. The results will also give important inputs to governments, research organisations and NGOs in other Amazonian countries for enhancing the adoption rates of good forest management. As the project's results will also be thoroughly discussed with the government environmental agencies (such as IBAMA, PNF, SFB and the state organizations for environment – OEMA), the project will also contribute to the national forestry information system and regional forestry policies, in particular the proceedings for approval and auditing of Forest Management Projects. This will help the relevant governmental organisations to avoid or diminish related problems and work more effectively with scarce resources.

In general terms, the establishment of Forestry Districts in the Amazon region will strengthen the local economy creating a permanent source of employment for foresters, technicians and forest workers. The enhanced applications of good forest management practices will maintain forest functions and services over time, and, as a result, forest resources will be used more efficiently and sustainably.

In this context, it is expected that the project will generate direct and indirect positive impacts on the forestry sector of the Brazilian Amazon, including several stakeholders such as timber enterprises, rural communities, universities, technical schools and training centres supported by the government (for details see chapter 3.4).

2.3 Project strategy

There are two general strategies to tackle the multiple reasons for the low level of adoption of SFM by Amazonian timber enterprises. On the one hand, to improve control mechanisms and impose harder restrictions to enterprises operating illegally or not complying adequately with the management plans. On the other hand, to promote enterprises interested in practicing better forest management as a basis for a more stable and continuous perspective in the sector. For both strategies, there is a number of options for direct and indirect measures. By using these structural dimensions of intervention, **Table 3** resumes important actions for enhancing the adoption rate of SFM practices by timber enterprises in the Amazon.

Table 3. *Some examples for possible actions aiming to enhance the adoption of SFM practices in the Amazon*

	Strategy 1: Restriction	**Strategy 2: Promotion**
Direct actions	▪ Law enforcement through more intensive and better organized field inspection ▪ Implementation of effective technologies for control	▪ Incentive payments for good forest management practices ▪ Better prices for timber from good forest management operations
Indirect actions	▪ Improved legal framework for forest management ▪ Implementation of remote sensing technologies for monitoring deforestation	▪ Better training and qualification of managers and workers in technical schools, training centres and universities ▪ Sensitising society on the importance of SFM for conservation and development

In the view of own competences and in accordance with the general strategy outlined in the first project proposal, the presented project has identified as most promising option to stimulate the adoption of SFM by timber enterprises in the Amazon to strengthen the mechanisms for training and dissemination. This option was chosen mainly for three reasons:

1) Currently, federal and a number of state governments are creating forest service organisations to support the dissemination of good forest management practices. In this context, a strategy for training and dissemination has been set up, which foresees the establishment of forest management training centres in the region. In parallel to this, more effective control mechanisms and improved monitoring and auditing tools will significantly increase the demand of the commercial sector for adequate training facilities. Hence, the current situation is extremely favourable to initiatives aiming at improving training opportunities in the Amazon. In view of the challenges related to this endeavour, support from the proposed project is highly appreciated and open up huge possibilities to positively catalyse promising initiatives devoted to training and extension services.

2) Although indirect working initiatives for better forest management are extremely important for preparing an adequate environment for innovation, crucial for achieving real changes in enterprise' behaviour is the individual contact with those people making decisions about forests, mainly forest owners, timber enterprises, and forest engineers. The establishment of direct contacts with these key actors during training and dissemination activities will generate a better understanding of the sector's behaviour and practices, while at the same time open up concrete possibilities to positively influence them in their decision making processes.

3) Finally, it can be expected that even small improvements in the way enterprises use/manage forests, and comply with existing government regulations will generate significant impacts, mainly because the forest sector is currently enduring difficult conditions to operate. In addition, there is a deep interest particularly at the government level in taking up and multiply promising experiences of good forest management. This means, recommendations on effective strategies for training and dissemination would have a high probability to influence policies and thus have multiplied impacts on the whole sector.

As stated above, the project aims at strengthening the capacity of governmental and private organisations involved in the dissemination of good forest management practices to timber enterprises working in the Amazon, mainly by the provision of adequately designed SFM tools and the design of optimised strategies for their effective dissemination to the enterprises (*Figure 3*).

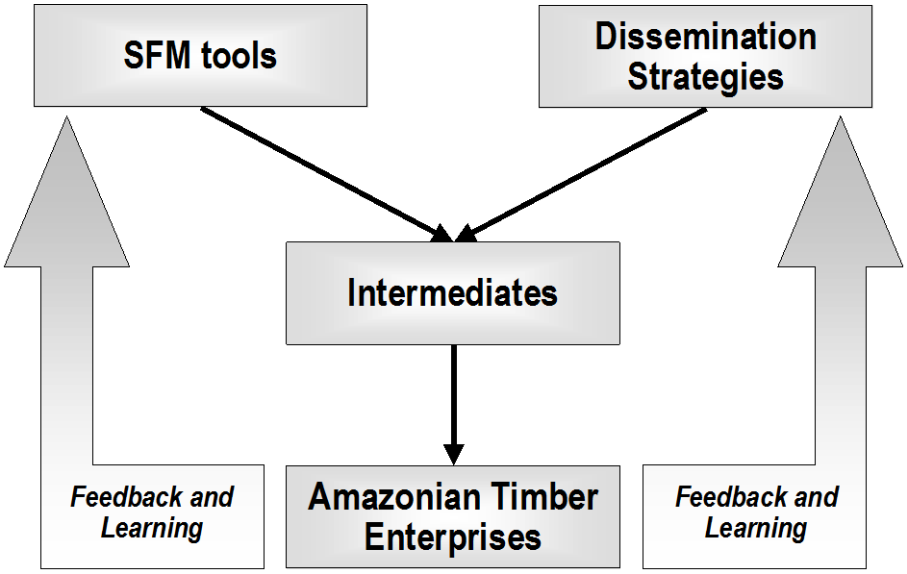

Figure 3. Strategic areas of action of the project

To achieve this, the project will establish strategic partnerships with some of the most important organisations for training and dissemination of SFM tools to timber enterprises in the Amazon. The selected organisations will be thoroughly trained in using the software, manuals and didactical material elaborated during the 1st project phase in order to disseminate and train Amazonian timber enterprises in adopting the set of managerial and silvicultural tools for good forest management. Then, the training and dissemination activities of the partners will be carefully assessed. Timber enterprises representing sizes and working environments typical to the region participating in the dissemination activities of the collaborating organisations for training and dissemination will be selected to assess the effects on enterprise's behaviour and the technical, social, financial and environmental effects caused by the adoption processes by applying methodologies also developed during the 1st project phase. This assessment will provide information to further refine and consolidate the managerial and silvicultural tools of the 1st project phase, as well as to assess and optimise the training and dissemination strategies of the collaborating organisations for training and dissemination. These learning processes counting on the active involvement of timber enterprises, organisations for training and dissemination as well as policy makers, are the basis to generate guidelines and policy-relevant recommendations for the effective dissemination of good forest management practices to Amazonian timber enterprises.

2.4 Target beneficiaries

Taking into consideration the reformulated objectives of the project's second phase, a wide group of stakeholders of the Brazilian forest sector will directly or indirectly benefit from the project outputs, particularly the following target groups:

IBAMA/Serviço Florestal Brasileiro will be supported in its mission to support the network of Training Centres in the Amazon region. These entities will benefit from more adequately qualified and motivated teaching staff responsible for the provision of training to timber enterprises and other forest users.

Also *Universities* in the region, especially those with forestry faculties, will be strengthened in many ways. They will be able to improve the relevance of the forestry curricula and the formation of their students to better suit the demands and realities of the forest sector in the region. Teaching staff of these universities will be more motivated and effective in their teaching as well as research functions as a result of new/updated technical knowledge and skills acquired, and the opportunities provided by the partnerships with relevant actors for practical research.

Also *other organisations for training and dissemination of knowledge and technologies for SFM in the Amazon* will benefit from the outputs and insights generated by the project. They will get access to highly relevant forest management tools, participate in training events organized by the project, and will learn about effective dissemination strategies.

Government (Federal and State) Environment Agencies and policy makers will be able to improve law enforcement over forest management projects by the use of the auditing tool developed by the project composed of a set of 140 verifiers. IBAMA, PNF, SFB, State Forest Services and State Environmental Organizations (OEMAs) will benefit from the project to achieve the specific objective regarding the improvement of forest management practices in the Brazilian Amazon.

Timber enterprises in the Amazon region will benefit by acquiring technical knowledge and practical skills to implement good forest management practices in their operations. Better economic results are expected, while reducing the negative ecological and socio-cultural impacts of forest management. Good forest management practices as a result of well trained foresters, technicians and field operations crews, are a must for timber enterprises to be entitled to forest concessions according to the criteria established by the Brazilian Forest Service to select concession proposals. Improved performance in forest management will also allow timber enterprises to be better prepared for governmental auditing as well as certification, if interested, thus allowing continued operations and better access to environmental-sensitive markets paying better prices for the timber. As a result of the dissemination efforts by the project partners and the demonstration effect provided by enterprises practicing SFM, other timber enterprises and loggers in the region would also be motivated to progressively adopt better practices and therefore to receive the benefits.

Better forest management practices will also benefit *local people* to improve their livelihoods, enhancing conservation of forest resources and providing new knowledge on how they can use their own forest resources more effectively. Permanent employment and market will help establish a stable source of income.

Foresters will benefit from the fact that timber enterprises will set-up permanent field teams to work in their Forest Management Units. New sources of employment for foresters shall be generated. In addition, it is expected that a better recognition of the role of foresters in improving forest management will contribute to professionalism in the sector.

Research organizations working in the target Amazon states will mainly benefit from increased opportunities provided by partnerships for practical research and policy-relevant work. This will generate better possibilities for doing research on issues important for private forest managers as well as for society as a whole.

ITTO member countries in the region by contributing to the achievement of ITTO's objectives, providing feasible tools for implementing and controlling SFM and by documenting the economic, ecological and socio-cultural impacts of good forest management practices.

2.5 Technical and scientific aspects

2.5.1. SFM Techniques

Reduced impact logging

In the early 1990s, Putz and Pinard (1993) used the term *Reduced Impact Logging* (RIL) for the first time. In between, the term is also referred to as *Low Impact Logging* (Blate 1997), planned logging (Johns *et al.*, 1996; Barreto *et al*., 1998), environmentally sound harvesting (Winkler 1997), and controlled damage logging (Hendrison 1990). Pinard *et al*. (1995) have defined *Reduced Impact Logging* as "an efficient timber extraction which is carried out in such a way as to minimize damage to forest ecosystem". Schwab *et al*. (2001) refers to *Reduced Impact Logging* as "the intensive planning and carefully controlled implementation of logging operations in order to minimize their impacts on forest floor and soil". Dykstra and Elias (2003) used the term *Low Impact Logging* to describe "technologies which are introduced in tropical forests, explicitly for the purpose of reducing environmental impacts associated with logging activity".

Although it may vary somewhat with local conditions, *Low Impact Logging* is not contingent upon the type of forest, region or country and usually requires the same planning, as may be found in several works (for instance: Sist *et al.* 1998a and 1998b; Higman *et al.* 1999, Elias *et al*. 2001). These authors suggest the same steps, the following being the main ones:

- Pre-logging inventory and mapping of individuals to be extracted
- Cutting of vines before logging, especially in areas where intertwining of neighbouring tree tops occurs
- Pre-logging planning of roads, skid trails and log landings in order to allow for access to working areas to individuals selected for extraction, as well as to minimize disturbances to soil and to protect water bodies
- Use of appropriate cutting techniques, including directional felling, low cuts of the trees so as to prevent waste and bucking seeking to maximize the usage of logs
- Construction of roads, log landings and skid trails suitable to meet environmental and engineering guidelines
- Winching of logs over planned skid trails, ensuring that skidders remain always on the trails
- Post logging evaluation aimed at promoting regeneration and identifying the needs for silvicultural treatments.

Such practices may be supplemented by silvicultural treatments in order to improve forest productivity.

Logging impact and the extent of damage are directly connected to the intensity of logging and to the techniques used. *Reduced Impact Logging* is not just a technique for reducing impacts but also a procedure to optimise the utilization of resources through forestry inventory and planning of logging activity (Sist 2000). Another point to be considered is that *Reduced Impact Logging* may be as good as, or even better than conventional logging from a competition viewpoint, considering the financial return of the former type (Barreto *et al.* 1998, Holmes *et al*. 2002). *Reduced Impact Logging* costs may be lower and, consequently, implementation of such practices may be more advantageous than conventional logging (Holmes *et al*., 2002; Pokorny and Steinbrenner 2004).
In the 1990s it became widely accepted that the adoption of *Reduced Impact Logging* techniques is essential for the improvement of tropical forest management. However, *Reduced Impact Logging* in itself is unable to ensure sustainability of tropical forests, and yet it is extremely important as a component of its management (Dykstra and Elias 2003).

Post-harvesting Silviculture

One of the most important steps towards sustainable forest management has been the implementation of Reduced-impact logging (RIL) techniques to reduce logging damage to both vegetation and soil. The hypothesis behind is that forests will recover faster and better. However, RIL focus mainly on technical issues during harvesting and provides only limited guidance regarding the silvicultural aspects crucial for the further development of the stands. In fact, the silvicultural dimension of harvesting is mainly restricted to the selection of trees to harvest based on grossly standardized rules, such as a general minimum cutting diameter and cutting cycles of between 20-60 years.

With regards to post-harvesting silviculture the current state of the art is even more dubious. Studies have shown that silvicultural treatments have the potential to significantly increase the growth rate of the trees in tropical forests up to 200%. The main silvicultural treatments are cutting of lianas, crown liberation thinning and planting of tree species in gaps. The cutting of lianas and the crown liberation thinning allow faster growth for the treated trees, while the enrichment of gaps allow to increase the productive quality of the forest, considering that the species planted have timber of high commercial value. But in practice, examples for post-harvesting silviculture are extremely rare. This has several reasons such as financial constraints, as well as the lack of infrastructure and adequately qualified personal. One of the most important motives for the ignorance of the potential post-harvesting silviculture, however, is the lack of information based on treatments at operational scale.

In view of this deficit, the project (ITTO PD 57/99 Rev.2 (F) "Sustainable Management of Production Forests at the Commercial Scale in the Brazilian Amazon" in its 1st phase established a large scale experiment in 1,400 ha of terra firme natural forest in Forest Management Units of projects' partner enterprises Cikel and Jurua to test different silvicultural systems and to generate the necessary information for the development of guidelines on post-harvest silviculture to be adopted in Amazonian natural forests.

In particular, the experiment promoted formerly selected future crop trees by increasing solar radiation through girdling undesirable trees. An average of 10 future crop trees ha^{-1} above 35 cm dbh were selected. In addition, seedlings were planted in gaps, at average 10 seedlings in each gap, plus about 7 seedlings from natural regeneration. All future crop trees, the eliminated competitors as well as the seedlings were registered and measured in accordance to the guidelines for the measurement of permanent sample plots. In addition, the time spent for the silvicultural operations and the material were registered and processed in the MEOF software to calculate the costs.

A second assessment of the experiments was done in the end of 2007, beginning of 2008 in both experimental areas. The data generated in the 3 assessments (installation of the experiments, first and second assessment) from both FMUs will be completely processed and analyzed until November 2008 through the application of the MFT and MEOF software developed in the 1st projects' phases. Based on this analysis, a first draft of guidelines for post-harvesting silviculture will be elaborated.

The financial dimension of RIL

Timber companies will only be persuaded to adopt sustainable forest management practices if it can be shown that RIL will generate financial profits. Studies of commercial timber logging in the Amazon began in the 1970s when the timber resources of the region became accessible to the timber centers in southern Brazil through the construction of the first Amazonian highways. The Brazilian Organization for the Development of the Amazon (SUDAM), supported by the Food and Agricultural Organization (FAO) of the United Nations, conducted the first study of the technical and financial potential of forest: the 1980s and 1990s, timber harvesting expanded greatly along old and new logging frontiers, but it was only at the end of the 1990s that the first financial analyses of environmentally sound forest management techniques became available for the region (Barreto et al. 1998, Holmes et al. 2000). Before these analyses, there were several reports on the timber sector and conventional logging (see Scholz 2001 for a comprehensive review), but the financial aspects of management were not studied.

The few financial studies available give very different results. For example, Costa Filho and Ferreira (1991) calculated costs of less than US$ 8 per m^3 for conventional logging in western Pará, and Mühlsiegl and Pokorny (1998) reported logging costs for the certified timber company, Mil Madeireiras, at nearly US$40 per m^3 due to extremely high

administrative costs. Veríssimo et al. (1995) estimated that costs for highly selective mahogany harvesting in southern Pará were approximately US$150 per m³.

These results from a few experiments, case studies, and surveys have been groundbreaking, but are insufficient as not providing representative cost estimates for logging in the Amazon. To provide companies and decision makers with more accurate information, a tool for monitoring production and costs of forest operations have been developed during the projects' 1st phase exploring the unique opportunity of a long-term strategic partnership between timber companies and research organizations. The tool, called MEOF, provides useful information for companies and generated reliable data for research to financially analyze the effects of RIL, including parameters such as production, capacity, and costs. The application of MEOF during the 1st phase confirmed that the tool is simple and relevant. MEOF, therefore, will enable an accurate assessment of financial effects of RIL implementation in the enterprises to be observed.

2.5.2. Training of Amazonian foresters in the SFM Techniques

Brazilian universities as well as technical schools in the Amazon consider SFM in their curricula. In practice, however, didactics are often limited to theory and strongly focuses on environmental aspects mostly related to research. Field courses, internships in forest enterprises and thus direct contact with the issue of Forest Management during the university career, are relatively rare. As a consequence, forest engineers and technicians are often badly prepared for taking over responsibility in the timber sector.

There is also a number of projects and programs to be found in different places of the Brazilian Amazon, dealing with the establishment of demonstration areas and pilot experiences of good forest management. The initial idea of these areas, to serve as a demonstration area and initial point for diffusion of SFM within the commercial timber sector, however, is seldom achieved, mainly for four reasons: (i) often, the areas are located in relatively remote areas, (ii) the experiences have been established with intensive external funding and thus suffer from incompatibility with the financial situation of the forest sector, (iii) the areas haven't been maintained for missing funding after the related project finished, and (iv) generally, there is a lack of adequate didactical concepts to accompany and effectively use the generated experiences.

As a result, many efforts to date are lacking from practical relevance for the sector. Against this background the Tropical Forest Institute (IFT), project partner during the 1st and 2nd project phase, became the most important organisation for wider dissemination of *Reduced Impact Logging* techniques in the Amazon region. IFT's training programme embraces various categories of timber harvesting from traditional manual systems, mechanized operations; and from small individual or community operations to large-scale industrial production. The training consists of practical, hands-on courses tailored to different target groups. The training programme is also dynamic and adaptive; it has evolved to incorporate lessons from applied research and expanded to include a broader array of objectives including non-timber forest products and multiple-use forest management.

Based on the positive experiences of IFTs' work, the government is currently developing strategies for technological transfer of SFM throughout the whole Amazon at an extended scale. This implies new institutional arrangement as well as immense methodological challenges with regards to tools and didactics. In this context, the project will play an important role, by bringing together relevant governmental and non-governmental organisations, by setting up a more comprehensive set of management tools by combining the tools already considered in IFTs' training programmes (see Table 4) with those developed in the projects' 1st phase (Table 1), and though the critical analysis of didactics generating important insights for more effective strategies for technology transfer.

Table 4. Tools used by IFT in its training programme

Computer tools	Reduced Impact Logging Simulator Software – RILSIM
Manuals	Manual for 100 % Inventory
	Manual for 100% Inventory Data Processing
	Manual for Felling Techniques
	Manual for Chainsaw Maintenance
	Manual for Planning and Construction of Skid-trails
	Manual for Planning and Construction of Harvesting Infrastructure
	Manual for Safety in Forest Operations

2.5.3. Diffusion of the SFM Techniques

In contrast to the initially planned implementation of a complete Forest Management System – as described in the original project proposal submitted to the ITTO in 1999 – we have learned during the projects' 1st phase that, for various reasons, timber enterprises hesitate to substitute old proofed technologies for complex innovations proposed by external agents. In contrast, a typical situation for SFM adoption processes is that, at the beginning, only very few enterprises are open for innovations at all. Rogers (1983) found that potential innovators have specific characteristics within their social network, in particular, they tend to be on the on-hand actors, who are isolated from their social group or at the other extreme are opinion leaders. In this sense, he revealed that diffusion of innovations is more a social process than a technical one and that the process follows certain general rules. The existing knowledge about the influence of social networks on the diffusion of innovation has up to now been vastly neglected by organizations involved in training and capacity building on forest management. One of the reasons for this failure may be seen in the fact that existing knowledge has been generated mainly in the agricultural sector, which naturally shows some major differences to forestry. Although recent studies on adoption of good forest management revealed important insights on the mentality of forest managers (Sabogal *et al.* 2006), current transfer strategies are still not effectively responding to the expectations, interests and capacities of the target groups. Instead, existing efforts strongly focus on promoting adoption by explaining technical features as well as financial and logistical advantages of good forest management. Against this background, the 2nd project phase intends to improve the knowledge about diffusion processes in the forestry sector and the influence of the clients' social characteristics as an important basis for developing more adequate and effective transfer strategies.

Another important finding of innovation researchers was that natural resource managers tend to test new technologies in experimental scale rather than to implement technology packages on the entire production areas. Managers are also extremely selective, as they accept only those tools and mechanisms, which are deemed most interesting and relevant to them. In many cases, they adjust the transferred technologies to their own specific interests and realities before application at larger scale. Although these are lessons learnt in the agricultural sector (Rogers (1983) and at the scale of communities (Schmitz 2002), it is very likely that the same principle rules are valid for the commercial forest sector. While Sabogal *et al.* (2006) showed that law is an important factor in influencing adoption, there is no clear understanding about what forest managers do with technological recommendations, why they accept or reject new technologies, adjust them, and what elements of complete technological packages they choose for what reasons.

Finally, it has been proven in many cases, that beyond the characteristic of the innovation itself, in our case the SFM tools, also the way of designing the transfer process is essential for the success of diffusion efforts. There is a large variety of strategic elements available to enhance the effectiveness of transferring tools for SFM (Pokorny *et al.* forthcoming): conventional training courses with different contents and duration designed with different didactical elements and for different clients; on-site training activities; accompanying material such as manuals and guidelines; short- or long-term consultancies; supervision and partnerships (for instance, with

research organizations) and so forth. Until know, little is known about the effects and impact pathways of these elements and the strategies characterized by a combination of these elements.

2.5.4. Synergies with ongoing ITTO projects on SFM

In view that Sustainable Forest Management is still one of the most promising approaches for combining forest conservation with rural development, many governmental and non-governmental organisations have been working on the implementation into practice. In the Brazilian Amazon region, due to its unique importance and potential, in particular ITTO traditionally is playing an outstanding role in promoting SFM in the region. This opens up excellent opportunities for collaboration.

The here presented 2nd phase will even more effectively being able to use potential for synergies between the diverse projects, mainly for two reasons. First most of the projects dealing with SFM are engaged in training and dissemination efforts, and would therefore be highly interested in collaborating with the proposed project as they can expect important contributions to their own efforts. In exchange, also the proposed project will be able to intensively benefit from experiences and existing know-how applied in these other projects. Secondly, already during the projects' 1st phase, it was possible to establish tight linkages to organisations and experts, often involved also in other ITTO funded SFM initiatives. This linkages will now facilitate the attempt to develop and implement concrete strategies for collaboration, even more, as in some cases, the persons and organisations involved in the diverse projects belongs to the same institutional working background.

In particular, the following on-going ITTO projects have been identified as potential collaborators, due to similar goals, active involvement in training and dissemination efforts, and the existence of excellent institutional linkages: (1) the project PD 319/04 Rev. 2 (F) "Modular system of forest management in the Brazilian Amazon" executed by the Amazon Institute of People and Environment (Instituto do Homem e Meio Ambiente da Amazônia - IMAZON), and (2) the project PD 346/05 "Conservation and recovery of degraded land in family agriculture units in the Eastern Brazilian Amazon" implemented by Embrapa Eastern Amazon.

In addition, another highly relevant ITTO project,will soon start and provides an enormous potential for collaboration. It is the project PD 432/06 "Promoting adoption of sustainable forest management in the Brazilian Amazon" coordinated by the Instituto Floresta Tropical (IFT), an organisation also actively involved since the beginning of the 1st phase in the here presented project.

Finally, there might be two other ITTO projects, which might offer interesting opportunities for synergies, if they would be finally approved. It is the project PD 454/06 "Community forest management: a sustainable alternative for the Maues state forests, Amazonas state to be executed by the Instituto Brasileiro de Educação em Negócios Sustentáveis (IBENS) and the project PD 455/06 "Local sustainable initiative for conservation and development for tropical forests through the management of the forest timber communities promotion in Acre, submitted by the Amazon's Workers Center - CTA.

2.6 Economic aspects

Sheperd *et al.* (1998) estimated that nearly US$ 0.75 billion are annually spent on international forestry assistance for implementing the concept of SFM for tropical forests. Rice *et al.* (2001) observed that these investments in technology transfer resulted in relatively poor results. Nevertheless, in consideration of the fact that nearly one third of remaining tropical forests is officially allocated to timber production (Johns 1997), there is a clear justification for insisting in

efforts for more effective ways of transferring and disseminating good forest management practices. Looking at the cost-benefits-ratio of transfer efforts so far, it becomes obvious that more effective transfer strategies are urgently needed.

As described above, critical research on impact pathways and effects has been strongly neglected by organizations involved in the transfer of SFM as well as competent research organisations. In this regard, insights generated by the proposed project may result in improvements, which, even if relatively small, should have a relatively strong effect to enhance the effectiveness of transfer mechanisms and strategies. Thus, training, capacity building and dissemination can be adjusted and optimised to achieve a maximum effect with the limited resources available. The project will also provide another important opportunity for more effective application of resources by assessing the real effects of SFM transfer. The close work with governmental and non-governmental organizations as well as the analysis at the level of timber enterprises will generate a sound basis for a more realistic assessment of costs and benefits related to the promotion of SFM. This will allow the project to provide advice to governments and donors to concentrate their investments in most promising activities, and thus help to bundle the limited resources on activities with high probability of success.

To achieve this, instead of establishing highly subsidized and costly pilot experiences, the project will collaborate with the responsible governmental and non-governmental organizations. Beyond having positive effects on the sustainability and impact of the project, this relationship will also ensure that the proportion of the project on the overall costs remains relatively low. Project inputs will be partly provided by the project team and the collaborating organizations responsible for training and selected timber enterprises. In this sense, the project team will be responsible mainly for building capacities in the selected partner organisations to disseminate the SFM tools generated in the 1st project phase, the coordination of activities and the scientific analysis of the dissemination process and its effects. Knowledge-transfer activities are limited to the provision of didactical material and training to the collaborating organisations responsible for training and capacity building at the level of timber enterprises. The timber enterprises selected for impact assessment will remain responsible for the coordination, planning and execution of operational activities in their Forest Management Units.

2.7 Environmental aspects

The main strategy of the project is to consolidate a set of tools in support of good forest management implementation and to build capacity of training centres, universities and government environmental agencies to use/transfer those practices to timber enterprises, foresters and other relevant clients in the Brazilian Amazon. Therefore, at the medium term, when as loggers and forest managers adopting good management practices, the project will indirectly generate a major positive environmental impact.

From the beginning, the project will monitor the effects of forest management implementation, in selected timber enterprises. This will be done by applying methodologies based on Criteria and Indicators for assessing the sustainability of forest management developed during the 1st project phase **as well as the ITTO set of Criteria and Indicators to assess progress towards achieving SFM.** This methodology incorporates the ITTO C&I for assessing SFM. The assessment methodology will be further refined in the beginning of the 2nd project phase. In addition, there will be a comprehensive final evaluation at the end of the project, and, in the in case that ITTO finds it useful, there will also be the opportunity for an *ex-post* evaluation.

2.8 Social aspects

The social dimension is an essential part of the concept of sustainability. Alarmed by the negative effects to local populations caused by the nature of land-use dynamics in the tropics, international organizations, national governments and non-governmental organizations have started - especially in the last decade - to strongly emphasize to social impacts of SFM. Already during the projects' 1st phase, special attention was given to develop operational tools for assessing social aspects of good forest management, and to study important social questions related to forest management in the Amazon. In continuation, the 2nd phase will also consider

social aspects, mainly through the dissemination of guidelines for “social management” by the timber enterprises, as well as by assessing the social impacts of dissemination efforts and the adoption of good forest management tools and practices by Brazilian timber enterprises.

The foreseen assessment will take into account the following two actor groups strongly affected by forest management activities: first, the forest workers and their families, who are often living far away and suffer from long periods of separation; and secondly the families living in the vicinities of the Forest Management Unit. The assessment will apply the parameters and methods developed during the projects' 1st phase. This assessment tool will enable to describe the current situation of the analysed actor groups, identify effects of possible innovations adopted by the enterprises, as well as providing a basis for critical discussion about possibilities for improvements.

In this sense, the results of the 1st phase with regards to the situation of forest workers, small farmers and communities, will be taken as a starting point for more detailed studies about the social impacts of SFM. In particular, about the effects of enterprises' attempts to organize the relationship to local families as a requirement for long-term protection of the Forest Management Unit, and about the strategies of timber enterprises to ensure adequate working conditions for their workers, considering how to reduce the negative effects of family separation, and how to mobilize interest and degree of satisfaction through adequate promotion strategies.

2.9 Risks

The projects' decision to collaborate with organizations involved in training and transfer of good forest management tools, instead of dealing directly with timber enterprises, was to ensure continuity and long-term effects of project efforts. But this decision has also significant implications with regards to risks, as the success of the project will depend mainly on the partnerships with these organizations. The seriousness of timber enterprises participating in the training events will also be an important feature for success.

The interest and willingness of organisations for training and dissemination to collaborate and their long-term commitment to training and dissemination will depend to a high degree on the position of federal and state governments with regards to good forest management as a priority option for the development of the Amazon, as well as the availability of sufficient financial resources. Up to a certain degree also the availability of adequate technical staff within these organizations is important. Critical in this sense, will be the first experiences with the implementation of the new forest law.

The probability of projects' success depends on the availability and seriousness of timber enterprises participating in the training and dissemination events. Thus, a sufficient number of timber enterprises must be willing to invest in good forest management. They also have to have the human and financial capacity to apply the disseminated management tools. A smaller number of timber enterprises have also to be available to collaborate with research organizations to enable the foreseen assessment activities.

With regards to the partnerships with organizations involved in training and technology transfer, the risk level is evaluated low, as a result of intensive consultations and negotiation processes during the 1st phase. In addition, key representatives of organisations for training and dissemination will be participating in the Steering Committee, and thus, have the opportunity to influence project activities in accordance with their own interests. Important is also the fact that the responsible persons from governmental partners have recently confirmed their positions for the next government period. This ensures up to certain degree continuity at the institutional level as well as at the individual scale.

With regards to the partnerships with timber enterprises, the project tends to avoid hampering effects for its performance by limiting its role to observation and analysis. In contrast to the projects' 1st phase, partner enterprises not necessarily have to apply the tools and practices for good forest management. In contrast, they project is now interested in their autonomous decision making, to understand if and to what degree they want to use the knowledge provided during training events. It is exactly this decision-making process, which is the object of the

projects' research component. In this sense, partnerships with enterprises require only availability for assessment through regular visits and do not imply contractual arrangements for implementing the proposed tools.

3 Outputs

Specific Objective: **Increase the efficiency of relevant training and dissemination organisations to foster the adoption of SFM tools by timber enterprises and government environmental agencies responsible for forest management in the Amazon.**

- Output 1: Ten organisations for training and dissemination trained in using SFM tools
- Output 2: Users of SFM tools trained
- Output 3: Five SFM computer tools consolidated, **translated into Spanish** and disseminated
- Output 4: Four guidelines to support SFM implementation prepared, **translated into Spanish** and disseminated
- Output 5: A compendium on current strategies for disseminating SFM tools in Brazil
- Output 6: Assessment reports about technical, social, financial and environmental effects on six selected enterprises of efforts to disseminate SFM tools
- Output 7 A manual, a policy brief and a scientific article **translated into Portuguese and Spanish** about effective dissemination of SFM tools to timber enterprises in the Amazon

4 Activities

Specific Objective: **Increase the efficiency of relevant training and dissemination organisations to foster the adoption of SFM tools by timber enterprises and government environmental agencies responsible for forest management in the Amazon.**

- **Output 1: Ten organisations for training and dissemination trained in using SFM tools**
  - Activity 1.1: Establishment of strategies and work plans for the transfer of SFM tools
  - Activity 1.2: Establishment of institutional arrangements with selected organisations for training and dissemination to carry out training activities about SFM tools
  - Activity 1.3: Elaboration of training programs and teaching material for each SFM tool
  - Activity 1.4: Training courses for collaborating organisations for training and dissemination

- **Output 2: Users of SFM tools trained**
  - Activity 2.1: Training courses organized by collaborating organisations for training and dissemination in the application of SFM tools
  - Activity 2.2: Supervision of training activities by project staff
  - Activity 2.3: Evaluation of training courses by project staff and collaborating organisations for training and dissemination

- **Output 3: Five SFM computer tools consolidated, translated into Spanish and disseminated**
  - Activity 3.1: Evaluation and validation of SFM computer tools developed in the project 1st phase
  - Activity 3.2: Refinement and elaboration of final version of the validated SFM computer tools and preparation of respective manuals

Activity 3.3: Elaboration of a strategy to ensure maintenance of SFM computer tools
Activity 3.4: **Translation and** dissemination of refined SFM computer tools

- **Output 4: Four guidelines to support SFM implementation prepared, translated into Spanish and disseminated**
  - Activity 4.1: Refinement of SFM guidelines developed in the project 1st phase
  - Activity 4.2: Elaboration of the final versions of the refined SFM guidelines
  - Activity 4.3: **Translation and** dissemination of the SFM guidelines

- **Output 5: A compendium on current strategies for disseminating SFM tools in Brazil**
  - Activity 5.1: Expert interviews and literature review to identify organisations relevant for training and dissemination of SFM tools to timber enterprises in the Brazilian Amazon
  - Activity 5.2: Workshop about SFM relevant dissemination strategies in the Brazilian Amazon
  - Activity 5.3: Interviews and organisational analysis in four selected organisations for a detailed description of dissemination strategies and underlying expectations with regards to impact pathways
  - Activity 5.4: Elaboration of a compendium on current SFM dissemination strategies in the Brazilian Amazon
  - Activity 5.5: Organisations of a seminar

- **Output 6: Assessment reports about technical, social, financial and environmental effects on six selected enterprises of efforts to disseminate SFM tools**
  - Activity 6.1: Refinement of a methodology to assess the effectiveness of SFM tools transfer to timber enterprises
  - Activity 6.2: Selection of timber enterprises (at least six) and establishment of arrangements
  - Activity 6.3: Training staff to carry out monitoring activities
  - Activity 6.4: Baseline studies in collaborating timber enterprises **including application of ITTO criteria and indicators**
  - Activity 6.5: Periodic assessment in collaborating timber enterprises **including application of ITTO criteria and indicators**
  - Activity 6.6: Organisation of field days

- **Output 7: A manual, a policy brief and a scientific article in Portuguese and Spanish about effective dissemination of SFM tools to timber enterprises in the Amazon**
  - Activity 7.1: Elaboration of preliminary assessment syntheses
  - Activity 7.2: Collaborative field assessment
  - Activity 7.3: Organization of a seminar to discuss experiences and analyze results
  - Activity 7.4: Elaboration, translation and publication of a paper, a manual and a policy brief
  - Activity 7.5: Organisations of seminars

5 Logical Framework Worksheets

PROJECT ELEMENTS	INDICATORS	MEANS OF VERIFICATION	ASSUMPTIONS
Development objective			
Encourage the adoption of sustainable forest management SFM by medium and large size timber enterprises in *terra firme* forests of the Brazilian Amazon	▪ Timber enterprises applying good management practices in their forest operations	▪ Auditing reports from government (federal and state) environmental agencies ▪ FSC statistics	▪ Timber enterprises are generally interested and willing to invest in SFM ▪ IBAMA/SFB, PNF and SFB allocate sufficient funds to support training centres in the Amazon ▪ Strategies for transfer and dissemination of SFM are effective ▪ Adequate political, legal, social and economic conditions exist
	▪ Government environmental agencies using more efficiently and effectively field and office procedures for auditing forest management plans	▪ Auditing reports ▪ Reports from government (federal and state) environmental agencies	▪ Government environmental agencies support the project and invest the necessary resources to implement the new auditing procedures ▪ Auditors from the governmental environmental agencies are trained and receive the necessary support to carry out their work
	▪ Enhanced national and international attention to project activities and outputs by relevant stakeholders (timber enterprises, government agencies, research and educational centres, NGOs and the general public)	▪ Articles in journals or magazines ▪ Clippings in newspapers and other media ▪ Number of visits to project website	▪ Relevant stakeholders sufficiently interested in environmental issues
Specific objective			
Increase the efficiency of relevant training and dissemination organisations to foster	▪ SFM tools (computer software, manuals and guidelines) better adapted to clients	▪ Software, manuals and guidelines ▪ Subcontracts ▪ Project progress reports ▪ Project home page	▪ Timber enterprises are willing and committed to collaborate in the adaptation of SFM tools

PROJECT ELEMENTS	INDICATORS	MEANS OF VERIFICATION	ASSUMPTIONS
the adoption of SFM tools by timber enterprises and government environmental agencies responsible for forest management in the Amazon	▪ Teaching staff of training centres and universities prepared to transfer the SFM tools	▪ Training materials ▪ Training reports ▪ Project progress reports ▪ Institutional agreements between EMBRAPA and training centres, universities and governmental environmental agencies	▪ CENAFLOR-supported training centres and universities are interested in collaborating with the project and provide the necessary financial and human resources ▪ Sufficient human and financial resources available
	▪ Teaching staff of training centres and universities train and transfer the SFM tools to timber enterprises, decision makers, foresters, students and government environmental agencies	▪ Training programs ▪ Course materials ▪ Training reports from training centres and universities ▪ Project progress reports	▪ CENAFLOR-supported training centres and universities include the training on SFM tools in their curricula ▪ Sufficient financial and human resources available in the training centres ▪ Interest from clients to participate in the offered courses
	▪ Impact pathways are understood	▪ Project publications ▪ Assessment reports ▪ Project progress reports	▪ Openness and interest of organisations for training and dissemination as well as timber enterprises for collaboration ▪ Sufficient financial resources available
	▪ Organisations for training and dissemination are discussing dissemination strategies	▪ Protocols of collaborative field assessment and workshops ▪ Project progress reports	▪ Interest of organisations for training and dissemination ▪ Sufficient financial resources available
	▪ Organisations for training and dissemination are adapting their dissemination strategies	▪ Training programs ▪ Information material provided by organisations for training and dissemination	▪ Openness and interest of organisations for training and dissemination ▪ Favourable institutional frame-conditions
	▪ More successful dissemination of SFM tools to timber enterprises	▪ Auditing government statistics ▪ FSC web site ▪ Eventual publications on this issue	▪ Favourable institutional frame conditions
	▪ Dissemination material produced and distributed	▪ Dissemination material (newsletter, folders, media clippings) Project progress reports	▪ Funding available

Outputs			
1 Ten training centres, universities and government environmental agencies trained in using SFM tools	▪ At least 10 training centres, universities and government environmental agencies trained by project staff	▪ Course materials ▪ Training reports ▪ Statistics of training centres ▪ Project progress reports	▪ Sufficient funds are available ▪ Interest and willingness of training centres, universities and government environmental agencies to collaborate
2 Users of SFM tools trained	▪ At least 1000 SFM tool users (timber enterprises, government environmental agencies, decision makers, foresters and students) trained by project collaborators	▪ Yearly reports of collaborating organizations ▪ Course materials ▪ Training reports ▪ Project progress reports	▪ Project clients interested in SFM ▪ Sufficient funds are available
3 Five SFM computer tools consolidated and disseminated	▪ SFM computer tools (see Table 1) consolidated and their respective manuals improved	▪ Project progress reports CD-ROMs with software and respective manuals for each computer tool ▪ Project home page ▪ Project progress reports	▪ Sufficient funds are available
4 Four guidelines to support SFM implementation prepared and disseminated	▪ SFM guidelines (see Table 1) consolidated, prepared and disseminated	▪ Management Guidelines ▪ Project home page ▪ Project progress reports	▪ Sufficient funds are available
5 A compendium on current strategies for disseminating SFM tools in Brazil	▪ The compendium	▪ Reports on interviews and workshops ▪ Secondary literature ▪ Project progress report	▪ Interest of organisations for training and dissemination in collaboration ▪ Availability of adequate human resources ▪ Sufficient funds are available
6 Assessment reports about technical, social, financial and environmental effects on six selected enterprises of efforts to disseminate SFM tools	▪ Assessment reports ▪ Field days organized	▪ Field manual ▪ Field reports ▪ Database ▪ Project progress report ▪ Field day reports	▪ Openness and continuous interest of collaborating organisations for training and dissemination and timber enterprises ▪ Availability of adequate project staff ▪ Sufficient funds are available
7 A manual, a policy brief and a scientific article about effective dissemination of SFM tools to timber enterprises in the Amazon	▪ Manual on dissemination ▪ Policy brief ▪ Scientific article	▪ Reports of workshops ▪ Synthesis with preliminary results ▪ Project progress report	▪ Continuous interest of collaborating organisations for training and dissemination and timber enterprises ▪ Availability of adequate project staff ▪ Sufficient funds are available

PROJECT ELEMENTS	INDICATORS	MEANS OF VERIFICATION
Activities		
Output 1 Ten organisations for training and dissemination trained in using SFM tools		
1.1 Establishment of strategies and work plans for the transfer of SFM tools	▪ Technical meetings with project partners and collaborators	▪ Meeting reports, including training plans for each collaborating organization) ▪ Project progress report
1.2 Establishment of institutional arrangements with selected organisations for training and dissemination to carry out training activities about SFM tools	▪ Institutional agreements	▪ Institutional agreements ▪ Project progress report
1.3 Elaboration of training programs and teaching material for each SFM tool	▪ Project staff work ▪ Subcontract (for the production of teaching materials)	▪ Training programs ▪ Training (teaching) materials ▪ Project progress report
1.4 Training courses for collaborating organisations for training and dissemination	▪ Field trips for project staff and training centre teaching staff ▪ Infrastructure for training courses ▪ Logistical support for training courses ▪ Teaching material for training courses	▪ Field trip reports ▪ Training reports ▪ Project progress reports
Output 2 Users of SFM tools trained		
2.1 Training courses organized by collaborating organisations for training and dissemination in the application of SFM tools	▪ Field trips for teaching staff ▪ Infrastructure for training courses ▪ Logistical support for training courses ▪ Teaching material for training courses	▪ Training reports ▪ Project progress reports
2.2 Supervision of training activities by project staff	▪ Field trips	▪ Field trip reports
2.3 Evaluation of training courses by project staff and collaborating organisations for training and dissemination	▪ Field trips ▪ Logistic support during field trips ▪ Subcontract (expert in training evaluation) ▪ Evaluation questionnaires ▪ Database of training activities and participants ▪ Technical meetings with project staff, collaborators and subcontractor ▪ Training materials and reports	▪ Technical report (methodology) ▪ Training evaluation reports ▪ Project progress report
Output 3 Five SFM computer tools consolidated, translated into Spanish and disseminated		

PROJECT ELEMENTS	INDICATORS	MEANS OF VERIFICATION
3.1 Evaluation and validation of SFM computer tools developed in the project 1st phase	▪ Discussion meetings with project collaborators and other clients ▪ Field visits to selected timber enterprises ▪ On-site training of selected timber enterprises staff ▪ Evaluation of tool application	▪ Meeting minutes ▪ Evaluation reports ▪ Field trip reports ▪ Assessment reports ▪ Project progress reports
3.2 Refinement and elaboration of final version of the validated SFM computer tools and preparation of respective manuals	▪ Subcontract (Amasoft) ▪ Technical meetings with clients and subcontractor ▪ Subcontract (Amasoft) ▪ Subcontract (printing) ▪ Technical meetings with subcontractor	▪ Contract ▪ CD-ROMs with software for each computer tool (preliminary version) ▪ Manuals for each computer tool (preliminary version) ▪ Project progress reports ▪ Contract ▪ CD-ROMs with software for each tool (final version) ▪ Manuals for each tool (final version) ▪ Project progress report
3.3 Elaboration of a strategy to ensure maintenance of SFM computer tools	▪ Technical meetings with project partners and collaborators, and subcontractor Amasoft	▪ Strategy document ▪ Project progress report
3.4: **Translation and** dissemination of refined SFM computer tools	▪ Technical meetings ▪ Subcontracts (edition and printing)	▪ Contracts ▪ Distribution lists ▪ Dissemination material ▪ Project progress report
Output 4 Four guidelines to support SFM implementation prepared, translated into Spanish and disseminated		
4.1 Refinement of SFM guidelines developed in the project 1st phase	▪ Discussion meetings with project collaborators and other clients	▪ Meeting minutes ▪ Evaluation report
4.2 Elaboration of final versions of the refined SFM guidelines	▪ Project staff work ▪ Subcontract (printing)	▪ Management guidelines ▪ Contract ▪ Project progress report
4.3: **Translation and** dissemination of the SFM guidelines	▪ Technical meetings ▪ Subcontracts (edition and printing)	▪ Contracts ▪ Distribution lists ▪ Dissemination material ▪ Project progress report
Output 5 A compendium on current strategies for disseminating SFM tools in Brazil		
5.1 Expert interviews and literature review to identify organisations relevant for training and dissemination of SFM tools to timber enterprises in the Brazilian Amazon	▪ Relevant organisations for training and dissemination identified and contacted ▪ Secondary information collected ▪ Interviews and assessment done	▪ Questionnaire ▪ Protocols of interviews ▪ Travel reports ▪ Project progress report
5.2 Workshop about SFM relevant dissemination strategies in the Brazilian Amazon	▪ Workshop successfully realized	▪ Workshop invitations ▪ Project progress report

PROJECT ELEMENTS	INDICATORS	MEANS OF VERIFICATION
5.3 Interviews and organisational analysis in four selected organisations for a detailed description of dissemination strategies and underlying expectations with regards to impact pathways	▪ Negotiations with organisations for training and dissemination ▪ Information collected	▪ Questionnaires ▪ Agreements with organisations for training and dissemination ▪ Travel reports ▪ Project progress report
5.4 Elaboration of a compendium on current SFM dissemination strategies in the Brazilian Amazon	▪ Compendium written	▪ Hardcopy of the compendium
5.5: Organisations of a seminar	▪ Technical meetings ▪ Subcontracts (venue) ▪ Logistic support	▪ Contracts ▪ Seminar reports ▪ Project progress reports
Output 6 Assessment reports about technical, social, financial and environmental effects on six selected enterprises of efforts to disseminate SFM tools		
6.1 Development of a methodology to assess the effectiveness of SFM tools transfer to timber enterprises	▪ Working sessions ▪ Methods defined ▪ Field manual available	▪ Hardcopy of the manual
6.2 Selection of timber enterprises (at least six) and establishment of arrangements	▪ Selection criteria developed ▪ Meetings with potentially interested timber enterprises and representing organisations	▪ Agreements with the timber enterprises ▪ Travel reports
6.3 Training staff to carry out monitoring activities	▪ Staff identified ▪ Training events realized ▪ Staff trained	▪ Travel reports ▪ Didactical material ▪ Project progress report
6.4 Baseline studies in collaborating timber enterprises **including application of ITTO criteria and indicators**	▪ Assessment team constituted ▪ Baseline study done	▪ Travel reports ▪ Agreements and contracts ▪ Database ▪ Project progress report
6.5 Periodic assessment in collaborating timber enterprises **including application of ITTO criteria and indicators**	▪ Technical, financial, social and environmental changes assessed ▪ Changes in enterprises' behaviour understood	▪ Travel reports ▪ Database ▪ Project progress report
6.6: Organisation of field days	▪ Technical meetings ▪ Field trips ▪ Subcontracts ▪ Logistic support	▪ Contracts ▪ Field day reports ▪ Project progress reports

Output 7 A manual, a policy brief and a scientific article in Portuguese and Spanish about effective dissemination of SFM tools to timber enterprises in the Amazon		
7.1 Elaboration of preliminary assessment syntheses	▪ Preliminary results defined	▪ Synthesis report
7.2 Collaborative field assessment	▪ Field visits with representatives of the collaborating organisations for training and dissemination, and timber enterprises	▪ Travel reports ▪ Project progress report
7.3 Organization of a seminar to discuss experiences and analyze results	▪ Successful seminar	▪ Workshop invitations ▪ Project progress report
7.4 Elaboration, translation and publication of a paper, a manual and a policy brief	▪ Publication elaborated ▪ Manual elaborated ▪ Policy brief elaborated	▪ Publications
7.5 Organisation of seminars	▪ Technical meetings ▪ Subcontracts (venue) ▪ Logistic support	▪ Contracts ▪ Seminar reports ▪ Project progress reports

6 Work Plan

OUTPUTS / ACTIVITIES	RESPONSIBLE PARTY	SCHEDULE		
		YEAR 1	YEAR 2	YEAR 3
OUTPUT 1: Ten organisations for training and dissemination trained in using SFM tools				
Activities				
1.1 Establishment of strategies and work plans for the transfer of SFM tools	Embrapa, expert in dissemination, expert in SFM			
1.2 Establishment of institutional arrangements with selected organisations for training and dissemination to carry out training activities about SFM tools	Embrapa, collaborating organisations for training and dissemination			
1.3 Elaboration of training programs and teaching material for each SFM tool	Embrapa, expert in SFM, subcontractors			
1.4 Training courses for collaborating organisations for training and dissemination	Embrapa			
OUTPUT 2: Users of SFM tools trained				
Activities				
2.1 Training courses organized by collaborating organisations for training and dissemination in the application of SFM tools	Collaborating organisations for training and dissemination			
2.2 Supervision of training activities by project staff	Embrapa			
2.3 Evaluation of training courses by project staff and collaborating organisations for training and dissemination	Embrapa, collaborating organisations for training and dissemination			
OUTPUT 3: Five SFM computer tools consolidated, **translated into Spanish** and disseminated				
Activities				
3.1 Evaluation and validation of SFM computer tools developed in the project 1st phase	Embrapa, expert in RIL, expert in SFM, subcontractor			
3.2 Refinement and elaboration of final version of the validated SFM computer tools and preparation of respective manuals	Embrapa, expert in RIL, subcontractor			
3.3 Elaboration of a strategy to ensure maintenance of SFM computer tools	Embrapa, collaborating organisations for training and dissemination			
3.4: **Translation and** Dissemination of refined SFM computer tools	Embrapa, collaborating organisations for training and dissemination			
OUTPUT 4: Four guidelines to support SFM implementation prepared, translated into Spanish and disseminated				
Activities				
4.1 Refinement of SFM guidelines developed in the project 1st phase	Embrapa, expert in RIL, expert in SFM			
4.2 Elaboration of final version of the refined SFM guidelines	Embrapa, expert in SFM			

OUTPUTS / ACTIVITIES	RESPONSIBLE PARTY	SCHEDULE		
		YEAR 1	YEAR 2	YEAR 3
4.3: **Translation and** dissemination of the SFM guidelines	Embrapa, expert in SFM			
OUTPUT 5: A compendium on current strategies for disseminating SFM tools in Brazil				
Activities				
5.1 Expert interviews and literature review to identify organisations relevant for training and dissemination of SFM tools to timber enterprises in the Brazilian Amazon	Embrapa, expert in dissemination			
5.2 Workshop about SFM relevant dissemination strategies in the Brazilian Amazon	Embrapa, expert in dissemination			
5.3 Interviews and organisational analysis in four selected organisations for a detailed description of dissemination strategies and underlying expectations with regards to impact pathways	Embrapa, expert in dissemination			
5.4 Elaboration of a compendium on current SFM dissemination strategies in the Brazilian Amazon	Embrapa, expert in dissemination			
5.5: Organisations of a seminar	Embrapa, expert in dissemination			
OUTPUT 6: Assessment reports about technical, social, financial and environmental effects on six selected enterprises of efforts to disseminate SFM tools				
Activities				
6.1 Development of a methodology to assess the effectiveness of SFM tools transfer to timber enterprises	Expert in dissemination			
6.2 Selection of timber enterprises (at least six) and establishment of arrangements	Embrapa, collaborating timber enterprises			
6.3 Training staff to carry out monitoring activities	Embrapa, expert in dissemination			
6.4 Baseline studies in collaborating timber enterprises **including application of ITTO criteria and indicators**	Embrapa, expert in dissemination, collaborating timber enterprises			
6.5 Periodic assessment in collaborating timber enterprises **including application of ITTO criteria and indicators**	Embrapa, expert in dissemination, collaborating timber enterprises			
6.6: Organisation of field days and disseminations events				
OUTPUT 7: A manual, a policy brief and a scientific article **in Portuguese and Spanish** about effective dissemination of SFM tools to timber enterprises in the Amazon				
Activities				
7.1 Elaboration of preliminary assessment syntheses	Embrapa, expert in dissemination, expert in SFM			

OUTPUTS / ACTIVITIES	RESPONSIBLE PARTY	SCHEDULE		
		YEAR 1	YEAR 2	YEAR 3
7.2 Collaborative field assessment	Embrapa, expert in dissemination, expert in SFM, collaborating organisations for training and dissemination, collaborating timber enterprises			
7.3 Organization of a seminar to discuss experiences and analyze results	Embrapa, expert in dissemination			
7.4 Elaboration, translation and publication of a paper, a manual and a policy brief	Embrapa, expert in dissemination, expert in SFM			
7.5 Organisation of seminars	Embrapa, expert in dissemination, expert in SFM			

7. Budget

7.1. Consolidated Total and Yearly Project Budget (in US $)

CATEGORIES	TOTAL	YEAR 1	YEAR 2	YEAR 3
I. Funds managed by Executing Agency				
10 Project Personal				
11. National Experts				
11.1 Project co-ordinator	90990	30330	30330	30330
11.2 Assistant for dissemination research	83880	27960	27960	27960
11.3 Assistant for impact assessment	83880	27960	27960	27960
11.4 Assistant for institutional collaboration	83880	27960	27960	27960
11.5 Expert in silviculture	50592	16864	16864	16864
11.6 Expert in forest fauna	10855	3618	3618	3619
11.7 Expert in economic monitoring	71759	22538	22538	26683
11.8 Expert in forest regeneration	32565	10855	10855	10855
11.9 Computer Expert	9897	3299	3299	3299
12. International Experts				
12.1 Expert in dissemination	50000	16000	16000	18000
12.2 Expert in RIL	15500	5166	5166	5168
12.3 Expert in SFM	40000	13300	13200	13500
13. Administrative Personal				
13.1 Project Administrator	20241	6747	6747	6747
13.2 Project Secretary	62028	20676	20676	20676
13.3 Drivers	11886	3962	3962	3962
14. Other Labour				
14.1 Forest engineers	38984	12994	12944	13046
14.2 Local labour	2000	666	667	667
15. Fellowships and training				
15.1 Fellowships	19084	6361	6361	6362
19. Component Total:	**778021**	**257256**	**257107**	**263658**
20. Sub-contracts				
20.1 Consolidation of computer tools	80190	37814	26251	16125
20.2 Printing and distribution	23120	2773	8000	12347
20.3 English translation and text review	15413	4413	5749	5251
29. Component Total	**118723**	**45000**	**40000**	**33723**
30. Duty Travel				
31. Daily Subsistence Allowance				
31.1 local per diem	11126	7126	2000	2000
31.2 national per diem	117693	39213	37640	40840
31.3 national per diem Workshops and Seminars	12953	5000	2953	5000
32. Transport				
32.1 local transport	21693	11419	4637	5637
32.2 national transport	185828	43700	72000	70128
32.3 Workshops and Seminars	36737	10868	9000	16869
39. Component Total	**386030**	**117326**	**128230**	**140474**

40.	**Capital Items**				
	41. Offices, labs, etc.	20000	6500	6500	7000
	42. Personal Computer	13460	13460	0	0
	49. Component Total	**33460**	**19960**	**6500**	**7000**
50.	**Consumable Items**				
	51. Utilities	1168	500	500	168
	52. Office Supplies	20213	5732	7300	7181
	53. Field Material	3365	1200	1100	1065
	54. Gasoline/Diesel	7231	2500	2500	2231
	59. Component Total	**31977**	**9932**	**11400**	**10645**
60.	**Miscellaneous**				
	61. Communication (Fax, Modem)	1682	600	500	582
	62. Maintenance capital items	6224	2200	2200	1824
	63. Sundry	18841	1200	7200	10441
	64 Project Auditing	20000	6000	7000	7000
	65 Workshops and Seminars	37247	15500	12600	9147
	69. Component Total	**83994**	**25500**	**29500**	**28994**
	Sub-Total	**1432205**	**474974**	**472737**	**484494**

II. Funds retained by ITTO

70.	**ITTO Monitoring and Evaluation**	
	71. Monitoring and Evaluation	30000
	72. Mid-Term / Ex-Post Evaluation	15000
	79. Component Total	**45000**
80.	**Program support**	
	81. Administrative costs 12%	70353
	89. Component Total	70353
	Sub-Total	**115353**

100 GRAND TOTAL 1547558

7.2 Overall Project Budget by Source (in US $)

	Actual Categories		Unit	Unit Cost	TOTAL	ITTO	Embrapa	IFT	MMA*
I.	**Funds managed by Executing Agency**								
10	Project Personal								
	11. National Experts								
	11.1 Project co-ordinator	36	months	2528	90990	0	84261	0	6729
	11.2 Assistant for dissemination research	36	months	2330	83880	83880	0	0	0
	11.3 Assistant for impact assessment	36	months	2330	83880	0	83880	0	0
	11.4 Assistant for inst. Collaboration	36	months	2330	83880	0	83880	0	0
	11.5 Expert in silviculture	36	months	1405	50592	0	50592	0	0
	11.6 Expert in forest fauna	36	months	302	10855	0	10855	0	0
	11.7 Expert in economic monitoring	36	months	1993	71759	0	71759	0	0
	11.8 Expert in forest regeneration	36	months	905	32565	0	32565	0	0
	11.9 Computer Expert	36	months	275	9897	0	9897	0	0
	12. International Experts								
	12.1 Co-ordinator of socioeconomic comp.	10	months	5000	50000	50000	0	0	0
	12.2 Expert in Reduced Impact Logging	25	months	620	15500	0	0	15500	0
	12.3 Expert in envirm. impact assessment	10	months	4000	40000	40000	0	0	0
	13. Administrative Personal								
	13.1 Project Administrator	36	months	562	20241	0	20241	0	0
	13.2 Project Secretary	36	months	1723	62028		62028	0	0
	13.3 Drivers	36	months	330	11886	0	11886	0	0
	14. Other Labour								
	14.1 Forest engineers	36	months	1083	38984	0	0	13750	25234
	14.2 Local labour	36	months	56	2000	2000	0	0	0
	15. Fellowships and training								
	15.1 Fellowships	36	fellows	530	19084	10000	9084	0	0
	19. Component Total:				**778021**	**185880**	**530928**	**29250**	**31963**
20.	Sub-contracts								
	20.1 Consolidation of computer tools	1	contract	80190	80190	80190	0	0	0
	20.2 Printing and Distribution	1	contract	23120	23120	23120	0	0	0
	20.3 English translation and text review	1	contract	15413	15413	15413	0	0	0
	29. Component Total				**118723**	**118723**	**0**	**0**	**0**
30.	Duty Travel								
	31. Daily Subsistence Allowance								
	31.1 local per diem	586	days	19	11126	11126	0	0	0
	31.2 national per diem project	1385	days	85	117693	28893	0	8800	80000
	31.3 national per diem Workshops and Seminars	152	days	85	12953	12953	0	0	0
	32. Transport								
	32.1 local transport	155	travels	140	21693	18538	3155	0	0
	32.2 national transport project	278	travels	700	185828	53028	0	12800	120000
	32.3 Workshops and seminars	40	travels	918	36737	36737	0	0	0
	39. Component Total				**386030**	**161275**	**3155**	**21600**	**200000**
40.	Capital Items								
	41. Offices, labs, etc.	1	var.	20000	20000	0	20000	0	0
	42. Personal Computer	1	var.	13460	13460	13460	0	0	0
	49. Component Total				**33460**	**13460**	**20000**	**0**	**0**
50.	Consumable Items								
	51. Utilities		var.		1168	1168	0	0	0

	Actual Categories		Unit	Unit Cost	TOTAL	ITTO	Embrapa	IFT	MMA*
	52. Office Supplies		var.		20213	3365	540	0	16308
	53. Field Material		var.		3365	3365	0	0	0
	54. Gasoline/Diesel		litre		7231	5047	2184	0	0
	59. Component Total				**31977**	**12945**	**2724**	**0**	**16308**
60.	Miscellaneous								
	61. Communication (Fax, Modem)		var.		1682	1682	0	0	0
	62. Maintenance capital items		var.		6224	6224	0	0	0
	63. Sundry		var.		18841	3841	0	0	15000
	64. Project Auditing	3	contract	6667	20000	0	20000	0	0
	65. Workshops and Seminars	4	contract	9312	37247	37247	0	0	0
	69. Component Total				**83994**	**48994**	**20000**	**0**	**15000**
	Sub-Total				**1432205**	**541277**	**576807**	**50850**	**263271**
	Funds retained by ITTO								
70.	ITTO Monitoring and Evaluation								
	71. Monitoring and Evaluation				30000	30000	0	0	0
	72 Mid-Term /Ex-Post Evaluation				15000	15000			
	79. Component Total				**45000**	**45000**	**0**	**0**	**0**
80.	Program support								
	81. Administrative costs 12.0%				70353	70353	0	0	0
	89. Component Total				**70353**	**70353**	**0**	**0**	**0**
	Sub-total				115353	115353	0	0	0
100	**GRAND TOTAL**				**1547558**	**656630**	**576807**	**50850**	**263271**

** (SFB, IBAMA, PNF, SFB)*

7.3 Overall Project Budget by Activity (in US $)

OUTPUTS / ACTIVITIES	BUDGET COMPONENTS 10. Person.	20. Subcntr.	30. Travel	40. Capital	50. Consum.	60. Miscell.	GRAND TOTAL	TIME Quarter	Year
OUTPUT 1: Ten organisations for training and dissemination trained in using SFM tools									
Activities									
1.1 Establish strategies and work plans for the transfer of SFM tools	32658		53598		3000	3000	92256	3	1
1.2 Establishment of institutional arrangements with selected organisations for training and dissemination to carry out training activities about SFM tools	31323						31323	3	1
1.3 Elaboration of training programs and teaching material for each SFM tool	27658						27658	3	1
1.4 Training courses for collaborating organisation for training and dissemination	36322		127271		4000	4000	171593	3	1
Subtotal	**127961**	**0**	**180869**	**0**	**7000**	**7000**	**322830**		
OUTPUT 2: Users of SFM tools trained									
Activities									
2.1 Training courses organized by collaborating organisations for training and dissemination in the application of SFM tools	65807		42148		5308	4000	117263	4,1	1,2
2.2 Supervision of training activities by project staff	23992		33140				57132	2-3,2	2,3
2.3 Evaluation of training courses by project staff and collaborating organisations for training and dissemination	23992		33598				57590	3-4,3	2,3
Subtotal	**113791**	**0**	**108886**	**0**	**5308**	**4000**	**231985**		
OUTPUT 3: Five SFM computer tools consolidated and disseminated									
Activities									
3.1 Evaluation and validation of SFM computer tools developed in the project 1st phase	28992	2673	4766				36431	1-2	1
3.2 Refinement and elaboration of final version of the validated SFM computer tools and preparation of respective manuals	9331	74713					54044	3	1,2,3
3.3 Elaboration of a strategy to ensure maintenance of SFM computer tools	16060		25000		3000	3000	47060	3	1
3.4: **Translation and** Dissemination of refined SFM computer tools	17990						17990	12	3
Subtotal	**72373**	**77386**	**29766**	**0**	**3000**	**3000**	**155525**		
OUTPUT 4: Four guidelines to support SFM									

OUTPUTS / ACTIVITIES	BUDGET COMPONENTS 10. Person.	20. Subcntr.	30. Travel	40. Capital	50. Consum.	60. Miscell.	GRAND TOTAL	TIME Quarter	Year
implementation prepared and disseminated									
Activities									
4.1 Refinement of SFM guidelines developed in the project 1st phase (see **Table 1**)	20327						20327	1	1
4.2 Elaboration of final versions of the refined SFM guidelines	20327						20327	1-2	1
4.3: **Translation and** Dissemination of the SFM guidelines	12664						12664	12	3
Subtotal	**53318**	**0**	**0**	**0**	**0**	**0**	**53318**		
OUTPUT 5: A compendium on current strategies for disseminating SFM tools in Brazil									
Activities									
5.1 Expert interviews and literature review to identify organisations relevant for training and dissemination of SFM tools to timber enterprises in the Brazilian Amazon	8598						8598	1	1
5.2 Workshop about SFM relevant dissemination strategies in the Brazilian Amazon	9331	1402	18591				29324	2	1
5.3 Interviews and organisational analysis in of four selected organisations for a detailed description of dissemination strategies and underlying expectations with regards to impact pathways	5665						5665	2	1
5.4 Elaboration of a compendium on current SFM dissemination strategies in the Brazilian Amazon	17865						17865	3	1,2,3
5.5: Organisations of a seminar	12996		6435		2804		22235	1	2
Subtotal	**54455**	**1402**	**25026**	**0**	**2804**	**0**	**83687**		
OUTPUT 6: **Assessment reports about technical, social, financial and environmental effects on six selected enterprises of efforts to disseminate SFM tools**									
Activities									
6.1 Development of a methodology to assess effectiveness of SFM tools transfer to timber enterprises	23992						23992	4	1
6.2 Selection of timber enterprises (at least six) and establishment of arrangements	16661		8131				24792	2	1
6.3 Training staff to carry out monitoring activities	23992		701				24693	3	1
6.4 Baseline studies in collaborating timber enterprises **including application of ITTO criteria and indicators**	23992		981				24975	1;4	1,2
6.5 Periodic assessment in collaborating timber enterprises **including application of**	16661						16661	4;1;4	2,3

OUTPUTS / ACTIVITIES	BUDGET COMPONENTS 10. Person.	20. Subcntr.	30. Travel	40. Capital	50. Consum.	60. Miscell.	GRAND TOTAL	TIME Quarter	Year
ITTO criteria and indicators									
6.6: Organization of field days	31323		3411			9345	44079	2	3
Subtotal	**136621**	**0**	**13224**	**0**	**0**	**9345**	**159192**		
OUTPUT 7: A manual, a policy brief and a scientific article in Portuguese and Spanish about effective dissemination of SFM tools to timber enterprises in the Amazon									
Activities									
7.1 Elaboration of preliminary assessment syntheses	9331						9331	4	1
7.2 Collaborative field assessment	7865						7865	2	2
7.3 Seminar to discuss experiences and analysis results	16661	1402	8954				27017	3	2
7.4 Elaboration, translation and publication of a paper, a manual and a policy brief	38654	38533					77187	4,2-3	1,2,3
7.5 Organisation of seminars	33855		19303			8411	61569	8,12	2,3
Subtotal	**106366**	**39935**	**28257**	**0**	**0**	**8411**	**182969**		
Activity related expenses Subtotal	664885	118723	386030	0	18112	31756	1189506		
Non-Activity related expenses Subtotal	113136	0	0	24200	13865	52238	203439		
TOTAL	**778021**	**118723**	**386030**	**24200**	**31977**	**83994**	**1392945**		
Subtotal (ITTO)	185880	118723	161275	13460	12945	48994	541277		
Subtotal (Executing agency)	592141	0	224755	20000	19032	35000	890928		
TOTAL	**778021**	**118723**	**386030**	**33460**	**31977**	**83994**	**1432205**		

7.4 Yearly Project Budget by Source

7.4.1 ITTO

Budget Components	Total	1st yr	2nd yr	3rd yr
10. Project Personal	**185880**	71542	71542	46941
20. Sub-contracts	**118723**	45000	40000	33723
30. Duty travel	**161275**	60571	44230	56474
40. Capital items	**13460**	13460	0	0
50. Consumable items	**12945**	4700	4500	3745
60. Miscellaneous	**48994**	16500	16500	15994
Subtotal 1	**541277**	211773	176772	156877
70. ITTO M&E, Mid-Term / Ex-Post Evaluation	**45000**			
Subtotal 2	**70353**			
80. Programme Support Costs (12 % of subtotal 1)				
TOTAL	**656630**			

7.4.2 Embrapa

Budget Components	Total	1st yr	2nd yr	3rd yr
10. Project Personal	**530928**	157635	175874	193274
20. Sub-contracts	**0**	0	0	0
30. Duty travel	**3155**	1155	1000	1000
40. Capital items	**20000**	6500	6500	7000
50. Consumable items	**2724**	924	900	900
60. Miscellaneous	**20000**	6000	7000	7000
TOTAL	**576807**	**172214**	**191274**	**209174**

7.4.3 IFT

Budget Components	Total	1st yr	2nd yr	3rd yr
10. Project Personal	**29250**	9250	10000	10000
20. Sub-contracts	**0**	0	0	0
30. Duty travel	**21600**	5600	8000	8000
40. Capital items	**0**	0	0	0
50. Consumable items	**0**	0	0	0
60. Miscellaneous	**0**	0	0	0
TOTAL	**50850**	**14850**	**18000**	**18000**

7.4.4 MMA

Budget Components	Total	1st yr	2nd yr	3rd yr
10. Project Personal	**31963**	8000	10000	13963
20. Sub-contracts	**0**	0	0	0
30. Duty travel	**200000**	50000	75000	75000
40. Capital items	**0**	0	0	0
50. Consumable items	**16308**	4308	6000	6000
60. Miscellaneous	**15000**	3000	6000	6000
TOTAL	**263271**	**65308**	**97000**	**100963**

PART III: Operational Arrangements

1. Management Structure

Based on the experiences from the 1st project phase, the management structure has been adapted to guarantee effective procedures for required scientific, logistical and financial activities. **Figure 4** presents the management structure.

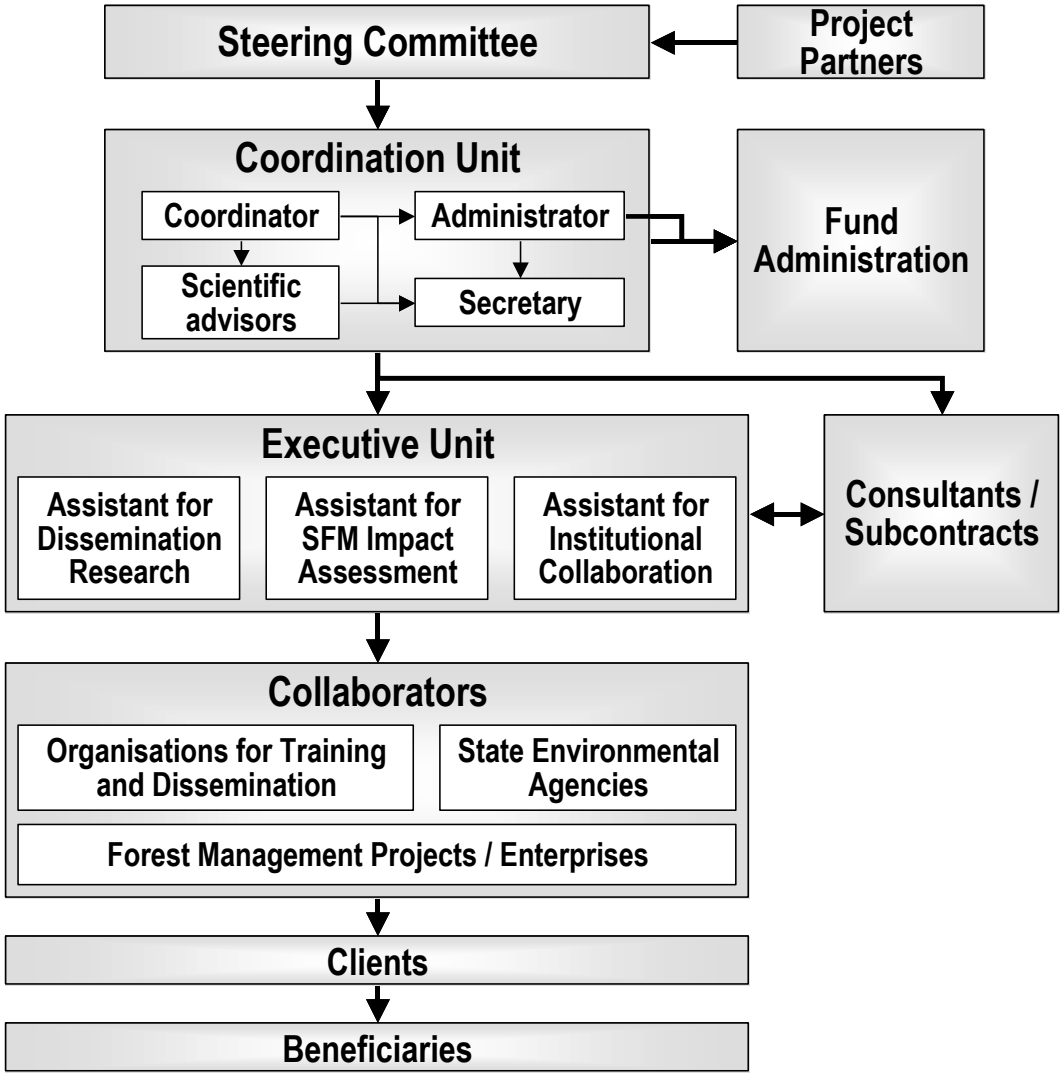

***Figure 4**. Project organization chart*

In particular, the project is structured in the following operational elements:

- The main task of the **Steering Committee** is to oversee the project providing general directions, reviewing and analysing the project performance and proposing new and/or corrective actions. It is constituted by the ITTO, the Agência Brasileira de Cooperação - ABC as responsible governmental agency; the **executing agency** EMBRAPA and one representative of each **project partner** (see **Table 5**), in particular: MMA (IBAMA, CENAFLOR, SFB or PNF), IFT as a representative of non-governmental organizations involved in the transfer and dissemination of good forest management, and CNI presenting clients from the industrial sector.

- The **Coordination Unit** is responsible for planning, coordinating, implementing and supervising the project activities, as well as for the communication with the Steering Committee, in particular with the ITTO and ABC. The coordination unit consists of the responsible project coordinator from EMBRAPA, supported by scientific advisors from CIFOR, SFB and the University of Freiburg. The coordinator can delegate coordinating responsibilities for specific actions to the scientific advisors. The coordination team is supported by an administrator for contracts and human resources, and a secretary.

- **Fund Administration: In the beginning of the First Phase - ITTO PD57/99 Rev.2 (F) -, the Project funds were administered by the local Embrapa's accounting department. That brought serious problems affecting deeply the Project's performance once Embrapa, as a public institution is tied to institutional barriers which usually hinder the effective application of resources. After a long period of negotiation, ITTO authorized a contractual agreement for fund administration to be carried out by the Tropical Forest Institute (IFT). IFT administered the Project funds from December 2005 to February 2008 (end of first phase). This cooperation was successfully implemented during the project first phase and it was of the utmost importance because it allowed all project activities to be carried out as planned. In this Second Phase - PD 452/07 Rev.2 (F), once IFT will administer its own project – ITTO PD 432/06, Embrapa is making arrangements with the Foundation Institute for the Development of Amazon – FIDESA (Fundação Instituto para o Desenvolvimento da Amazonia) so that FIDESA administers Project ITTO PD 452/07 Rev.2 (F) under the supervision of the Coordination Unit and Embrapa. It is worth mentioning that FIDESA is already working together with Embrapa in the execution of Project ITTO PD 346/05 Rev.2 (F) - "Conservation and Recovery of Degraded Land in Family Agriculture Units in the Eastern Brazilian Amazon".**

- The **Execution Unit**, under the supervision and guidance of the Coordination Unit, executes project activities. This operational element is composed of three project assistants, each with specific tasks in accordance to the project work plan. The *Assistant for Dissemination Research* has as main responsibility the execution of research activities about the impacts of transfer of SFM tools and practices. The *Assistant for SFM Impact Assessment* implements monitoring activities to evaluate the impacts of SFM in selected timber enterprises. Finally, the *Assistant for Institutional Collaboration* takes care for establishing and maintaining effective communication with project partners and collaborators.
  The execution unit is completed by a number of trainees of the areas of administration, communication and computing.

- **Consultants and subcontracts** complement expertise not found among project team and collaborators, based on contracts with specified terms of reference. Two long-term consultants, one coordinating research about dissemination processes, one responsible for research on SFM impacts, and a subcontracted software enterprise will improve and maintain computer tools developed during the project first phase.

- **Collaborators** within the project serve as partners as well as medium for research implementation, in particular (see also **Table 5**):

    - **Organizations for training and dissemination**: such as the training centres IFT in Para State, Centro Florestal - Itacoatiara in Amazonas State, PROMATEC/FUNTAC and CTA in Acre State, and Escola de Floresta – SENAI in Mato Grosso State and the Universities UFRA (Belém and Santarém) in Pará, UFAM in Amazonas, UFAC in Acre, and UFMT in Mato Grosso,

    - **State environmental agencies (OEMAs)**, in particular SECTAM in Para, IPAAM in Amazonas, SEFE in Acre and FEMA in Mato Grosso

- **Forest Management Projects** and respective **timber enterprises** as research targets on the impacts of transfer activities in the adoption of good forest management (at least six in the four project target states - PA, AM, AC and MT)

- **Research organizations** such as EMBRAPA (through its centres in the project target states), universities, and NGOs, specifically the IMAZON coordinated ITTO project about modular implementation of good forest management.

- **Clients (Users)** of project outcomes, in particular timber enterprises, government environmental agencies, universities, foresters, and students

- **Beneficiaries** of project efforts and impacts, in particular private forest sector, government agencies, educational and research organizations, NGOs, relevant international bodies (e.g. OTCA), and the general public

Table 5. *Project partners, collaborators, clients and relevant stakeholders*

Project partners	▪ MMA (Ministério do Meio Ambiente) through IBAMA/SFB / Instituto Brasileiro do Meio Ambiente e Recursos Naturais Renováveis / Centro Nacional de Capacitação em Manejo Florestal); PNF (Programa Nacional de Florestas); SFB (Serviço Florestal Brasileiro) ▪ IFT (Instituto Floresta Tropical) ▪ CNI (Confederação Nacional da Indústria) through state representatives –Federação das Indústrias
Project collaborators	▪ *Training centres:* ▪ IFT in Para State ▪ Centro Florestal - Itacoatiara in Amazonas State ▪ PROMATEC/FUNTAC (Fundação Tecnológica do Estado do Acre) ▪ Centro de Trabalhadores da Amazônia – CTA in Acre State ▪ Escola de Floresta – SENAI (Serviço Nacional de Aprendizagem Industrial) in Mato Grosso State
	▪ *Universities:* ▪ UFRA (Belem and Santarem) in Para State ▪ UFAM (Universidad Federal do Amazonas) and UTAM (Universidad Tecnológica do Amazonas) in Amazonas State ▪ UFAC (Universidade Federal do Acre) in Acre State ▪ UFMT (Universidade Federal do Mato Grosso) in Mato Grosso State
	▪ *State environmental agencies (OEMAs):* ▪ SECTAM (Secretaria do Estado de Cieência e Tecnologia) in Para State ▪ IPAAM (Instituto de Pesquisa Ambiental do Amazonas) in Amazonas State ▪ SEFE (Secretaria de Florestas e Extrativismo), in Acre State ▪ FEMA (Fundação Estadual do Meio Ambiente) in Mato Grosso State ▪ ALU-FR (University of Freiburg, Germany)
	▪ *Timber enterprises:* ▪ At least six among the four target Amazon states
	▪ *Research organizations:* ▪ To be defined during the first year – Examples include: EMBRAPA centres in the Amazon (States of Pará, Amazonas, Acre); IMAZON (Instituto do Homem de Meio Ambiente); IPAM (Instituto de Pesquisa Ambiental da Amazõnia); INPA (Instituto Nacional de Pesquisa da Amazônia), among others
Clients (Users)	▪ Timber enterprises, government environmental agencies, universities, foresters, and students
Relevant stakeholders	▪ Private forest sector, government agencies, educational and research organizations, NGOs, relevant international bodies (e.g. OTCA), and the general public

At the beginning the organisational structure will be set up as basis for effective administration and implementation. This includes activities such as setting up of the project Steering

Committee (SC), selection and hiring of project staff and consultants, renewal of existing agreement for project funds administration, establishment of institutional agreements with project partners, the maintenance of project infrastructure, vehicles, equipment and communication facilities. In addition there will be continuous activities of the coordination, in particular, project fund administration, updating of the project home page as well as support for project monitoring and auditing. Overall costs for these non-activity related expenses are estimated with USD 299240.

2. Monitoring, Reporting and Evaluation

Half-year progress reports will be generated and submitted to ABC, which, after revision and approval, will send to the ITTO. Progress reports, other technical reports and financial reports as well as project outcomes such as computer tools, presentations and publications will be prepared and made available for the yearly Steering Committee meetings. A final report will be prepared within three months of the project end. In addition, a seminar will be organised to present project results to a wider audience. Project results could also be presented at national and international conferences.

The project will be monitored and reviewed by the Steering Committee, ITTO and ABC according to the instructions indicated in the ITTO Manual of Project Monitoring, Review and Evaluation. The best timing for ITTOs' visits and Steering Committee meetings will be at the end of the dry season (November). This will also allow for field inspections.

If possible, the project will be submitted to an ex-post evaluation as indicated in the ITTO Manual of Project Monitoring, Review and Evaluation. ABC, IBAMA, EMBRAPA and CIFOR will evaluate the project in accordance to the Brazilian international technical co-operation guidelines.

In accordance to projects' objectives, monitoring and evaluation will also take place with regards to the two major research activities. Thus, the impacts of the dissemination and transfer activities of the collaborators will be regularly assessed, communicated and discussed in order to optimise existing strategies. Secondly, collaborating enterprises will be continuously observed by using ITTOs' C&I and the C&I-based tool developed during the project first phase to describe the process and adaptation of good forest management tools, as well as the technical, social, environmental and financial impacts.

3. Future Operation and Maintenance

The project aims at improving the adoption of good forest management tools and practices by timber enterprises in the Amazon by strengthening the capacity of organizations involved in training and dissemination of forest actors. Future operation and maintenance of project benefits include two aspects:

i) Long term impacts of forest management tools developed and validated by the project: The documentation and analysis of the impacts of the forest management tools at the commercial scale provides an unique opportunity for stimulating timber enterprises for adaptation to their own operations. In addition to these tools it is expected to raise an stimulus to a more integrative view of forest management including, beyond the financial and environmental aspects, also its social dimension. The project will ensure maintenance of the developed tools, in particular of software tools, by establishing strategic partnerships between EMBRAPA and the private sector.

ii) Improvements in transfer strategies: This will occur at two levels: first at the level of the collaborating institutions participating in the project on assessment processes about the impacts of their efforts, and second, indirectly through recommendations to relevant organizations based on the lessons learnt from analysis of the methods and strategies for transfer applied. In this sense, the project will prepare key organizations for transferring tools to support the implementation of good forest management practices among their clients. The active

participation of the governmental organizations SFB, IBAMA/SFB and PNF, as well as the non-governmental-organisation IFT is crucial for this. Most important, therefore, is the future integrative efforts of different institutions towards technology transfer in forest management in training centres for tropical forest management throughout the Brazilian Amazon, where research and teaching institutions would jointly act to promote forest development in the region.

As a consequence, the continuation of the project impacts on promoting the adoption of good management practices within the Brazilian Amazon is expected to occur as part of the national and state government forest development policies. The forest management tools developed and validated within the project will certainly be used by a wider universe of organizations involved on sustainable forest management as well as, most important of all, the timber enterprises themselves. This will gain even more relevance with regards to the new forest management law recently issued by the Brazilian government, which decentralizes management of forestlands and establishes forest concession systems in the Amazon.

PART IV: THE TROPICAL TIMBER FRAMEWORK

1 Compliance with ITTO 1994 Objectives

This project is consistent with the following ITTO objectives as stipulated in Article 1 of the ITTA (1994):

c) To contribute to the process of sustainable development;

d) To enhance the capacity of members to implement a strategy for achieving exports of tropical timber and timber products from sustainability managed resources by the year 2000;

f) To promote and support research and development with a view to improving forest management and efficiency of wood utilization as well as increasing the capacity to conserve and, enhance other forest values in timber producing tropical forests;

l) To encourage members to develop national policies aimed at sustainable utilization and conservation of timber producing forests and their genetic resources and at maintaining the ecological balance in the regions concerned, in the context of tropical timber trade.

2 Compliance with ITTO Action Plan

This project lies within the framework of the Committee on Reforestation and Forest Management and it is mainly related to the forest management area. It is also in line with the objectives defined by this Committee (ITTA, 1994, Article 27):

b) Encourage the increase of technical assistance and transfer of technology in the fields of reforestation and forest management to developing countries;

c) Follow up on-going activities in the field, and identify and consider problems and possible solutions to them in cooperation with the competent organizations;

e) Facilitate the transfer of knowledge in the field of reforestation and forest management with the assistance of competent organizations.

This project is consistent with the ITTO Action Plan and is related to the major objectives of the Committee on Reforestation and Forest Management, which are to promote the development of national policies and to support the development and implementation of sustainable forest management systems. This project is related to the following priorities defined in the ITTO Action Plan:

- Forestry sector policy review
- Studies on the economic and financial costs and benefits of forest management
- Identification of field demonstration projects where sustainable production of timber and non-timber products may be combined
- Comparative assessment of silvicultural treatment on permanent sample plots
- Study on the impacts of different levels of timber harvesting on forest sustainability
- Promoting and financing demonstration projects for different models, and regional/sub-regional networks of such projects
- Promoting regional studies to assess the current situation and to project the minimal manpower requirements needed for sustainable manpower
- Prepare manuals about technical environment, financial, economic and manpower aspects
- Specification of training requirements for forest management and administration
- Help to create about tropical forest management, and between tropical forestry research institutes
- Help to finance exchange visits and workshops participation by technical personnel

ANNEXES

Annex A – Profile of the Executing Agency

1) The Expertise of the Executing Agency

The Brazilian Agricultural Research Corporation (EMBRAPA) was created in 1973. Its mission is to provide feasible solutions for the sustainable development of the Brazilian agribusiness through knowledge and technology generation and transfer.

Networking through 37 Research Centres, three Service Centres and 11 Central Divisions, EMBRAPA is present in almost all states of the country, thus embracing a wide diversity of biophysical and socio-economic conditions. There are 8,619 employees in EMBRAPA, of which 2,221 are researchers, 45% have a Master's degree and 53% a Doctoral degree. EMBRAPA coordinates the National Agricultural Research System (NARS), which includes most public and private entities involved in agricultural research in the country. The institution maintains projects in International Cooperation in order to strengthen the knowledge of technical and scientific activities or to share knowledge and technology with other countries.

EMBRAPA Eastern Amazon, which is the Executing Agency of the present proposal, has contributed to the elaboration of public policies on natural forests mainly on the use and conservation of Amazonian forest resources. Research at this centre on forest ecology, silviculture, forest management and wood technology began at the end of the 1970's and over these years has accumulated valuable technological knowledge that has contributed to elaborate guidelines for the sustainable use and management of the Amazonian natural forests. These guidelines served as a basis for developing the "Brazilian Silvicultural System", used by most of the timber enterprises, which were certified by the Forest Stewardship Council – FSC. EMBRAPA centres in the Amazon states are collaborating with agencies of forest certification aiming to contribute to the multiple-use of the forest resources using sustainable forest management techniques and practices.

In the past three years EMBRAPA Eastern Amazon has conducted over 60 research and development projects, of which 11 are related to forest science, being seven of them carried out in natural forest areas. The seven projects dealing with natural forests are: "Genetic conservation in Amazonian managed forests" (funded by DFID); "Management of secondary forests in the Northeast of the State of Pará" (funded by PPG7-World Bank and the Brazilian Government); "Tree species potential for timber in three ecosystems in the State of Pará" (funded by CNPq-Brazilian Government); "Vegetation ecology in managed forests" (funded by PPG7-World Bank and CNPq-Brazilian Government); "Forest management systems of timber and non-timber resources" (funded by PPG7-Word Bank and CNPq-Brazilian Government); "Conservation and recovery of degraded land in family agriculture units in the Eastern Brazilian Amazon" (PD 346/05-Rev.2 (F), funded by ITTO) and "Sustainable management of production forests at the commercial scale in the Brazilian Amazon" (PD 57/99-Rev.2 (F), funded by ITTO). The "Genetic conservation in Amazonian managed forests" (funded by DFID) project was concluded in 2005, while the others are still being executed.

2) The Infrastructure of the Executing Agency

EMBRAPA Eastern Amazon's headquarters are located in the city of Belém, the capital of Pará State. It has ten Experimental Stations distributed in the state, two of which carrying out research on forest plantations, forest ecology and natural forest management. There are also eight Units for Technology Transfer. In Belém there are 11 Research Laboratories: Agroindustry, Botany, Entomology, Phytopatology, Biotechnology, Climatology, Ecophysiology, Remote Sensing, Soils, Animal Nutrition, and Forest Seeds. Two of these laboratories (Botany and Forest Seeds) are linked to forestry research projects, but in all the eleven laboratories there are facilities for research and training. There are two more buildings with sixteen rooms were forest researchers and assistants are placed.

3) Budget

The budget (in US$) for the last three years of the Executing Agency is detailed in **Table 6**.

Table 6. *Yearly budgets of Embrapa Eastern Amazon since 2004*

Budget items	**2004**	**2005**	**2006**
Personnel	8,920,762	9,516,012	10,467,613
Subcontracts	751,528	787,165	865,881
Duty Travel	73,622	76,181	83,799
Consumables	119,061	153,381	168,719
Capital	252,445	245,227	269,750

4) Personal

The personnel in forestry-related fields of the Executing Agency is as follows:

- Experts holding graduate degrees: 23
- Experts holding under graduate degrees: 0
- Technicians: 3
- Administrative personnel: 3
- Field personnel: 7
- Total number of personnel in the forestry related fields: 36

Annex B – Curricula Vitae of the Key Staff

1) João Olegário Pereira de Carvalho

Surname: Carvalho
Forenames: João Olegário Pereira
Date and place of birth: 06.05.1949 in Santarém, Brazil
Nationality: Brazilian
Permanent residence: Belém, Brazil

Degrees:

1992	University of Oxford, UK D.Phil. in Forestry Major subject: tropical silviculture and forest management Title of thesis: Structure and dynamics of a logged over Brazilian Amazonian rain forest
1982	Federal University of Paraná, Brazil M.Sc. in Forest Science Major subject: tropical silviculture and forest management Title of thesis: Analysis of the structure of the natural regeneration in a tropical dense forest in the Tapajós region, State of Pará
1974	Federal University of Paraná, Brazil B.Sc. in Forest Engineering

Relevant work in the last 3 years:

2004 – present (since 1978)	Brazilian Agricultural Research Corporation – Embrapa Senior Forest Research Officer in silviculture and forest management
2004 – present (since 1993)	National Council for Scientific and Technological Development – CNPq Forest Research Officer in silviculture, forest ecology and management
2004 – present (since 1993)	Federal Rural University of the Amazonia – UFRA Lecturer for ecology and silviculture of natural forest in the MSc course Supervisor of MSc and BSc students
2007 - present	Embrapa – CIFOR – ITTO Co-ordinator of the project “Sustainable management of production forests at the commercial scale in the Brazilian Amazon – Phase I” – PBM
2006 – present	Embrapa – CNPq Co-ordinator of the research project “Post-harvesting silviculture in the Brazilian Amazonia” – Projeto Silvicultura PC
2004 – present (since 2001)	Embrapa – CNPq Co-ordinator of the research project “Tree species potential for timber in three ecosystems in the State of Pará” – Projeto Peteco
2004 - present	Inter-Institutional Net of Growth Monitoring Dynamic of Forests in the Brazilian Amazon – REDEFLOR Member of the REDEFLOR
2005 - 2007	Embrapa – CIFOR – ITTO Deputy Co-ordinator of the project “Sustainable management of production forests at the commercial scale in the Brazilian Amazon – Phase I” – PBM
2005 - present	Embrapa – CNPq – PPG7 Co-ordinator of the research net “Management and conservation of timber and non-timber forest resources” – Rede Manflor
2005 - present	Embrapa – CNPq – PPG7 Co-ordinator of the project “Vegetation ecology in managed forests”
2004 - present	Embrapa Co-ordinator (2004-2005) and member (2005-present) of the “Thematic Nucleus on Management of Natural Forests”

2) José Natalino Macedo Silva

Surname: Silva
Forenames: José Natalino Macedo
Date and place of birth: 24.12.1946 in Belém, Brazil
Nationality: Brazilian
Permanent residence: Belém, Brazil

Degrees:

1990	University of Oxford, UK D.Phil. in Forestry Major subject: tropical silviculture and forest management Title of thesis: The behaviour of the tropical rain forest of the Brazilian Amazon after logging.
1980	Federal University of Paraná, Brazil M.Sc. in Forest Science Major subject: tropical silviculture and forest management Title of thesis: Eficiência de diversos tamanhos e formas de unidades de amostras aplicadas em inventário florestal na região do baixo Tapajós.
1971	Federal University of Paraná, Brazil B.Sc. in Forest Engineering

Relevant work in the last 3 years:

2007 – present	Brazilian Forest Service – SFB Member of the Board Directors
2004 – 2007 (since 1978)	Brazilian Agricultural Research Corporation – Embrapa Senior Forest research Officer in silviculture and forest management
2004 – 2006 (since 1993)	National Council for Scientific and Technological Development - CNPq Forest Research Officer in silviculture, forest ecology and management
2004 – present (since 1993)	Federal Rural University of the Amazonia – UFRA Lecturer in forest management in the MSc and BSc courses Supervisor of PhD, MSc and BSc students
2004 - present	Inter-Institutional Group of Growth Monitoring Dynamic of Forests in the Brazilian Amazon – WG Monitoring Chairman and Effective Member of WG Monitoring
1999 - 2007	Embrapa – CIFOR – ITTO Co-ordinator of the project “Sustainable management of production forests at the commercial scale in the Brazilian Amazon – Phase I”
1998 - present	Agreement Embrapa – CIFOR Affiliate Scientist
1998 - present	Agreement Embrapa – CIFOR Co-ordinator
1996 - 2005	Tropical Forest Foundation Member of the board directors
1996 – 2006	Lecturer at the FTT/IFT training centre

3) Cesar Sabogal

Surname: Sabogal
Forenames: Cesar
Date and place of birth: 19.12.1954 in Callao, Perú
Nationality: Peruvian
Permanent residence: Belém, Brazil

Degrees:

1987 University of Gottingen, Germany
Doctor in Forest Sciences
Major subject: Tropical Silviculture
Title of thesis: Structure and development dynamics of a primary Amazon forest near Pucallpa, Peru

1980 National Agricultural University La Molina, Lima
Forest Engineer
Major subject: Forest Management
Title of thesis: Floristics and structure of a primary forest in the Copal Zone, Jenaro Herrera, Loreto, Peruvian Amazon

1978 National Agricultural University La Molina, Lima
B.Sc. in Forest Engineering

Relevant work in the last 3 years:

2007 – present
- International Consultant (CIFOR, FAO) and CIFOR Associate Researcher
- Consultant for the GTZ to support the Brazilian Forest Service (SFB) and its interactions with the state environmental agencies in Para (IDEFLOR), Amazonas (IPAAM) and Acre (SEF) to implement the Law for Public Forests.

2004 – 2006 Center for International Forestry Research (CIFOR). Regional Office in Belém, Brazil - Senior Scientist, Environmental Services and Sustainable Use of Forests Programme

Coordinator / Team leader for the following research and capacity building projects:
- Constraints and opportunities for the adoption of good management practices in Amazon forests (Brazil, Bolivia, Peru)
- Review of forest rehabilitation initiatives in the Amazon of Brazil and Peru
- Support to the implementation of the new forestry regime in the Peruvian Amazon through training for professionals and forest concessionaires
- Development of an auditing system for forest management plans in timber concessions of the Peruvian Amazon
- Monitoring forest management in timber concessions of the Peruvian Amazon
- Community Forest Management in Tropical America: Experiences, Lessons Learned and Challenges for the Future

Participation as a team member in the following research projects:
- Sustainable management of commercial forests in the Brazilian Amazon
- Forest management by small farmers in the Amazon – an opportunity to enhance forest ecosystem stability and rural livelihood (ForLive project)

1998 – 2004 Center for International Forestry Research (CIFOR). Regional Office in Belém, Brazil - Senior Scientist, Sustainable Forest Management Programme, and CIFOR Regional Coordinator for Latin America

Team leader or member of the following research and capacity building projects:
- Sustainable management of production forests at the commercial-scale in the Eastern Brazilian Amazon
- Management of secondary forests by smallholder farmers in north-eastern Pará, Brazilian Amazon
- Status of silvicultural practice in the Brazilian and Peruvian Amazon
- Constraints and opportunities for the adoption of sustainable forest management practices in Amazon forests
- Review of forest rehabilitation initiatives: lessons from the past", with activities in Brazil and Peru

4) Benno Pokorny

Surname: Pokorny
Forenames: Benno
Date and place of birth: 09.10.1963 in Germany
Nationality: German
Permanent residence: Freiburg, Germany and Belém (Brazil)

Degrees:

Institution: Albert-Ludwigs University, Germany
Date From/To: 1992-1995
Degree/ Diploma: Ph.D. (Forest Sciences)

Institution: Albert-Ludwigs University, Germany
Date From/To: 1983-1990
Degree/ Diploma: MSc. (Forest Sciences)

Professional Experiences

	Organisation	Position
since 2003	University of Freiburg, Germany	Assistant Professor Senior Associated Researcher to CIFOR
since 1998	Centro da Empresa Brasileira de Pesquisa Agropecuária (EMBRAPA); German Development Cooperation (GTZ); Food and Agricultural Organization of the United Nation (FAO); Center for International Forestry Research (CIFOR) and others	Consultant Technical Advisor
2000-2003	Center for International Forestry Research (CIFOR) Regional Office for Latin-America, Brazil	Researcher (CIM expert)
1997-2001	Faculdade de Ciências Agrárias do Pará (FCAP), Brazil German Academic Exchange Service (DAAD)	Lecturer, researcher and local coordinator of an International University Cooperation
1996-1997	Forest Experimental and Research Station of Baden-Württemberg (FVA)	Software-Developer and Trainer

5) Ademir Roberto Ruschel

Surname: Ruschel
Forenames: Ademir Roberto
Date and place of birth: 25.10.1969 in Mondaí-SC, Brazil
Nationality: Brazilian
Permanent residence: Belém, Brazil

Degrees:

2005	Westfälische Wilhelms Universität - Institut Biochemie und Biotechnologie der Pflanzen, Germany Dr. in Biology Major subject: Subtropical silviculture and populations genetics in forest plant Title of thesis: Floristic and Genetic Characterization of Subtropical Atlantic Forest Fragments in Southern Brazil, with Emphasis on Sorocea bonplandii.
2000	Federal University of Santa Catarina, Brazil M.Sc. in Plant Genetic Resources Major subject: Forest management and natural resources uses and conservation Title of thesis: Evaluation and Valuation of the Woody Species of the Seasonal Deciduous Forest of the Alto – Uruguai.
1997	Federal University of Santa Catarina, Brazil B.Sc. in Agronomic engineer

Relevant work in the last 3 years:

2003 – present (since 1993)	Member of the Tropical Forest Research Group – NPFT- Federal University of Santa Catarina, Brazil.
2005 – 2006	Consultant for the ELETROSUL/FUNAI - 086200 01242/2005 Project: Recovery of the degraded areas in indigenous lands, Morro dos Cavalos - Southern Brazil.
2005 – 2006	National Council for Scientific and Technological Development (CNPq) / Federal University of Santa Catariana (UFSC). Project-CPNq/PDJ: Genetic Diversity Analysis and Strategies for the Management of the Native Forest Species.
2006 – Present	Embrapa Amazônia Oriental – Member of the research project ITTO/Embrapa - PD 57/99 Ver. 2 (F). ITTO-PD nº 02.03.0.11.00.00
2006 – Present	Embrapa Amazônia Oriental – Coordenator of the research project - Post-harvesting silviculture in the Flona-Tapajós, Brazil.

Relevant Scientific Publications in the last 3 years:

2005 – present (since 1993)	MANTOVANI, M.; RUSCHEL, A.R.; PUCHALSKI, A.; Silva, J.Z.; REIS, M.S.; NODARI, R.O. Diversity of species and successional structure of a secondary formation in an Atlantic rain forest. Scientia Forestalis. v. 67, p. 14-26, 2005.
2005 – present (since 1998)	RUSCHEL, A.R.; GUERRA, M.P.; MOERSCHBACHER, B.M.; NODARI, R. O. Valuation and characterization of the timber species in forest remnants of the Alto-Uruguai river ecosystem of the Subtropical Atlantic Forest, Southern Brazil. Forest Ecology and Management. v. 217, p. 103-116, 2005.
2006 – present (since 2003)	RUSCHEL, A.R.; MOERSCHBACHER, B.M.; NODARI, R.O. Demography of Sorocea bonplandii in Seasonal Deciduous Forest, Southern Brazil. Scientia Forestalis. v. 70, p. 149-159, 2006.
2007 – present (since 2004)	RUSCHEL, A. R.; NODARI, R. O.; MOERSCHBACHER, B.M. Woody Plant Species Richness in the Turvo State Park, a Large Remnant of Deciduous Atlantic Forest, Brazil. Biodiversity and Conservation. v.16 n 6, 2007.
2007 – present (since 2005)	RUSCHEL, A.R.; NODARI, R.O.; MOERSCHBACHER, B.M. The Genetic Structure of Sorocea bonplandii in Southern Brazilian Forest Fragments: AFLP Diversity. Silvae Genetica 56, v.2, p51-58, 2007.

6) Johann Cornelis Zweede

Surname: Zweede
Forenames: Johann Cornelis
Date and place of birth: 07.01.1940 in Blitar-Java, Indonesia.
Nationality: United States of America
Permanent residence: Belém, Brazil

Degrees:

BSc. Degree in Biology, Syracuse University 1964, Syracuse, N.Y.
BSc. Degree in Tropical Forestry, New York State University-College of Forestry. 1965

Professional experience:

1994 – to present: Fundação Floresta Tropical (Belém – PA)

- Director of the Fundação Floresta Tropical and Instituto Floresta Tropical
- Responsible for coordinating and implementing reduced impact logging demonstration models in upland forests in Brazilian Amazonia;
- Development of training programs and human capacity building for operational activities involved in forest management and reduced impact logging;
- Development and coordination of Forest management research both within the organization and with partnerships.
    1. Silvicultural research, post harvest treatments including release thinning and enrichment planting.
    2. RIL (Reduced Impact Logging) FFT
    3. Fauna research related to control areas, RIL areas and conventional logged areas.
    4. Economic studies of costs benefits for RIL, and specific alternative RIL methods.
    5. Forest Ecology, Including species composition, regeneration.
- Overall supervision of employees and logistics control of forest management and reduced impact logging projects – FM-RIL;
- Presentation of seminars on FM-RIL practices in Brazil and abroad;
- Implementation and development of forest projects and sustainable management programs in the tropics;
- Supervise research programs within the organization and with partner organizations.
- Responsible for proposals and reporting to Board of Directors and Donors.

7) Rogério Puerta

Surname: Puerta
Forename: Rogério
Date and place of birth: 23.10.1969 in São Paulo, Brazil
Nationality: Brazilian
Permanent residence: Belém, Brazil

Degrees:

2000	Tropical Forestry Sciences Master Degree at INPA (National Research Institute of the Amazon). Title of dissertation: "Tree Regeneration from Continuous Forest Distances at Abandoned Pastures in the Manaus Region" approved in June, 30th, 2000.
1996	Agronomic Engineering at Faculdade de Ciências Agrárias e Veterinárias (FCAV) - UNESP - Jaboticabal - SP. Admission: 1992. Concluded: 1996

Relevant work in the last 3 years:

2005 – present	⇒ Technical Assistant at Projeto Bom Manejo – Embrapa/CIFOR, since November 2005.
2004 – 2005	⇒ Consultant from September 2004 to October 2005 at Projeto Bom Manejo – Embrapa/CIFOR, under supervision of Dr. Natalino Silva and Professor Benno Pokorny, in the sub project "Development of Information Systems to Evaluate Local Forest Resources Sustainability".
June to August, 2004	⇒ Consultant for ECI (International Cooperation Office) – UFRA – Federal Rural University of Amazonia – from June to August 2004, under supervision of Professor Maximilian Steinbrenner. The task was an information gathering from international cooperation projects of UFRA.
July, 2004	⇒ Consultant hired on July 2004, by GTZ/ProManejo, Component IV – Tapajós National Forest, subcomponent Communitarian Forest Management. The task was an arrangement, according to recommendations, in the project "Communitarian Forest Management and Furniture and Handicraft Production of Tauarí, Paraíso and Jutuarana communities".
2002 – 2004	⇒ Technical Assistant at the ProManejo Project in Santarém, Pará state, from November, 11th, 2002 to February 29th, 2004. Hired by German Embassy/GTZ to assist with the Tapajós National Forest community projects. Main tasks: Forest inventory technical assistance and elaboration of annual operational planning for non timber exploitation projects; Monitoring of developing projects; Analysis, screening and rewriting of project proposals; Direct articulation with partner institutions, supporters and the local community.

8) Ulisses Sidnei da Conceição Silva

Surname: Silva
Forenames: Ulisses Sidnei da Conceição
Date and place of birth: 03.02.1978 in Belém, Brazil
Nationality: Brazilian
Permanent residence: Belém, Brazil

Degrees:

2003	Rural Federal University of the Amazonia M.Sc. in Forest Science Major subject: forest management Title of thesis: Phytosociology of tree and non-tree species of a tropical forest in Cantá - RR.
2000	Rural Federal University of the Amazonia B.Sc. in Forest Engineering

Relevant work in the last 3 years:

2003 (01/08 – 30/09)	Institute of the Environment and Renewable Natural Resources – IBAMA. Consultant for the United Nations for the Development Program - PNUD in analysis of Forest Management Plans and Annual Forest Operation Plans in Belém- PA.
2003 (November)	Brazilian Agricultural Research Corporation – Embrapa Forest inventory in permanent sample plots in a terra firme area at the Embrapa Experimental Station in Moju – PA.
2003 (November)	Brazilian Agricultural Research Corporation – Embrapa Forest inventory in permanent sample plots in a terra firme area at the Fazenda Rio Capim, CIKEL Brasil Verde Madeiras, in Paragominas – PA.
2004 (22/07 - 31/12)	Institute of the Environment and Renewable Natural Resources – IBAMA. Consultant for the United Nations for the Development Program - PNUD in analysis of Forest Management Plans and Annual Forest Operation Plans in Belém- PA.
2005 (07/11- 24/01/2006)	Consultant for the United Nations for the Development Program - PNUD in analysis of Forest Management Plans and Annual Forest Operation Plans in Macapá – AP.
2006 (01/02 – present)	Embrapa – CIFOR - ITTO Research assistant in silviculture in the project “Sustainable management of production forests at the commercial scale in the Brazilian Amazon – Phase I” – Projeto Bom Manejo.

9) Sergio Evandro Costa Martins Filho

Surname: Martins Filho
Forenames: Sergio Evandro Costa
Date and place of birth: 22.01.1980 in Belém, Brazil
Nationality: Brazilian
Permanent residence: Belém, Brazil

Degrees:

2006	Rural Federal University of the Amazonia, Brazil M.Sc. in Forest Science Major subject: Forest management Title of thesis: Assessment of logging damage and yield regulation methods in submitted forests to reduced impact logging in Brazilian Amazon.
2003	Rural Federal University of the Amazonia, Brazil B.Sc. in Forest Engineering

Relevant work in the last 3 years:

Present	Projeto Bom Manejo – PD 57/99 Rev. 2 (F) - ITTO Research Assistant.
2006	Projeto Bom Manejo – PD 57/99 Rev. 2 (F) - ITTO Training staff of partner enterprises on the use of the MEOF program.
2006	Projeto Bom Manejo – PD 57/99 Rev. 2 (F) – ITTO Organization of the MEOF program database of the partner's enterprises.
2006	Projeto Bom Manejo – PD 57/99 Rev. 2 (F) – ITTO Test and improvement of the MEOF program.
2005-2006	Projeto Bom Manejo – PD 57/99 Rev. 2 (F) – ITTO Selection of the best method for the yield regulation to be used by partner enterprises.
2004-2005	Projeto Bom Manejo – PD 57/99 Rev. 2 (F) – ITTO Training staff of partner enterprises on the use of forest damage assessment developed by the Bom Manejo Project.
2004-2005	Projeto Bom Manejo – PD 57/99 Rev. 2 (F) – ITTO Organization of the logging damage database of the partner's enterprises.

10) Sandra Maria de Sena Holanda

Surname: Holanda
Forenames: Sandra Maria de Sena
Date and place of birth: 12.05.1963 in Belém, Brazil
Nationality: Brazilian
Permanent residence: Belém, Brazil

Degrees:

2003	University of Paraíba - IESP, Santarém – Pará - Brasil Post-Graduation in Public Administration
2002	Faculdades Integradas do Tapajós – FIT, Santarém, PA, Brazil BSc. in Countable Sciences
1989	UNAMA, Belém, PA, Brazil BSc. in Business Administration

Relevant work in the last 3 years:

2006-present	Brazilian Agricultural Research Corporation – Embrapa – CIFOR – ITTO - IFT "Sustainable management of production forests at the commercial scale in the Brazilian Amazon – Phase I" – Projeto Bom Manejo Administrative Manager
2006-present	Brazilian Agricultural Research Corporation – Embrapa – CIFOR - ITTO "Sustainable management of production forests at the commercial scale in the Brazilian Amazon – Phase I" – Projeto Bom Manejo Supervisor of BSC. students in Administration
2006-present	Brazilian Agricultural Research Corporation – Embrapa – CIFOR - ITTO "Sustainable management of production forests at the commercial scale in the Brazilian Amazon – Phase I" – Projeto Bom Manejo Supervisor of BSC. students in Computing
2004-2005	FUNBIO - Fund Brazilian for Biodiversity Administrative Assistant
2004-2005	FUNBIO – Fund Brazilian for Biodiversity Expert in application of Procedures established by donor of resources: BIRD, WWF and KFW
1999-2004	Institute of the Environment and Renewable Natural Resources - IBAMA – Tapajós National Forest, Santarém, PA, Brazil Financial and Administrative Assistant
1999-2004	Institute of the Environment and Renewable Natural Resources - IBAMA – Tapajós National Forest, Santarém, PA, Brazil Expert in application of the Procedures (Brazilian Law 8666) for shopping and Government Subcontracts: PNUD - UAP/ABC; World Bank and GTZ/KFW

11) Maria do Socorro Pinto Moura

Surname: Moura
Forenames: Maria do Socorro Pinto
Date and place of birth: 08.11.1965 in Belém, Brazil
Nationality: Brazilian
Permanent residence: Belém, Brazil

Degrees:

2006 – present	BSC student at Faculty of Arts MADRE CELESTE – Belém - PA
1997	High School - Belém – Para Luiz Otávio Pereira School

Relevant work in the last 3 years:

2006 – present (since July)	Brazilian Agricultural Research Corporation – Embrapa – CIFOR – ITTO - IFT "Sustainable management of production forests at the commercial scale in the Brazilian Amazon – Phase I" – Projeto Bom Manejo Executive Secretary
2005 – 2006 Nov 2005 – Feb 2006)	SEBRAE – Serviço Brasileiro de Apoio a Pesquisa e Micro Empresas Legal Assistant Department.
2001 – 2004 (May 2001 – Sept 2004)	TRADELINK WOODS LTDA Administrative Assistant

12) Regina Celia Viana Martins-da-Silva

Surname: Martins-da-Silva
Forenames: Regina Celia Viana

Degrees:

1994	Federal University of Pará, Brasil. M.Sc. in Biological Sciences Major subject: Biological Environment. Title of thesis: Chlorophyceae (Algae, Chlorophyta) of the Água Preta lake, municipality of Belém, State of Pará.
1991	Federal University of Pará, Brasil. Specialization in Biological Science
1979	Federal University of Paraná, Brazil B.Sc. in Biological Science

Relevant work in the last 3 years:

1995 – present	Brazilian Agricultural Research Corporation – Embrapa Research Officer II in botany with emphasis in vegetation taxonomy.
1996 – present	Brazilian Agricultural Research Corporation – Embrapa Custodian of the herbarium - botany laboratory

Publications

HOPKINS, M. G. ; MARTINS-DA-SILVA, R. C. V. . Identification, conservation and management plants in the Amazon. Tropinet, Wooster, 2003.

GOMES, J. I. (Org.) ; MARTINS, M. (Org.) ; MARTINS-DA-SILVA, R. C. V. (Org.) ; ALMEIDA, S. (Org.) . Inventory and Biological Dynamics of the Ecological Research area of the Guamá (APEG) (PRELO). Belém, PA: Embrapa Amazônia Oriental, 2003.

HOPKINS, M. G. ; MARTINS-DA-SILVA, R. C. V. . Parataxônomo: profissional indispensável no processo de inventário para o manejo florestal. In: 54o. Congresso Nacional de Botânica, 2003, Belém. Resumos 54o. Congresso Nacional de Botânica. Belém : Sociedade Botânica do Brasil, 2003

HOPKINS, M. G. ; MARTINS-DA-SILVA, R. C. V. ; PROCOPIO, L. C. ; FERREIRA, G. C. . Plant identification as a tool to improve logging practices in the Amazon. In: Biotic interactions in the tropics, 2003, Aberdeen. Programme and Abstracts of Biotic interactions in the tropics: A special Symposium of the British Ecological Society and The Annual Meeting of the Association for Tropical Biology and conservation. Aberdeen : British Ecological Society, 2003. p. 64-63.

MARTINS-DA-SILVA, R. C. V. ; FERREIRA, G. C. ; HOPKINS, M. G. . Folheto de identificação: um instrumento para diferenciar espécies agrupadas em um nome vernacular - o exemplo do angelim. In: 54o. Congresso Nacional de Botânica, 2003, Belém. Resumos 54o. Congresso Nacional de Botânica. Belém : Sociedade Botânica do Brasil, 2003

13) Gracialda Costa Ferreira

Surname: Ferreira
Forenames: Gracialda Costa
Date and place of birth and nationality: 04.12.1976, Belém, PA, Brazil

Degrees:

2005	Botanical Garden of Rio de Janeiro, Brazil D.Sc. in Botany Major subject: Biological Science; Phytogeography Title of thesis: Environmental modelling of species of trees in the Vale do Jari, Monte Dourado-PA using data of a forest inventory.
2002	Federal Rural University of the Amazonia – UFRA M.Sc. in Forest Science Major subject: tropical silviculture and forest management Title of thesis: Morfo-anatomical study of the species of Leguminosae commercialised in the state of Pará as angelim and derivations.
2000	Federal Rural University of the Amazonia – UFRA B.Sc. in Forest Engineering

Relevant work in the last 3 years:

2005	City department of environment, SEMMA, Belém, Brazil Director of the department of management of special areas
2005	City department of environment, SEMMA, Belém, Brazil Director of the Botanical Garden of the Amazônia Forest Rodrigues Alves
2005 – present	Federal Rural University of the Amazonia – UFRA Lecturer on silviculture and dendrology
2002	Brazilian Agricultural Research Corporation – Embrapa Researcher at "Dendrogene" project Embrapa/DFID
2001 - present	Brazilian Agricultural Research Corporation – Embrapa Researcher and trainer in botanical identification of forest species

Annex C – References

Barreto P., P. Amaral, E. Vidal, C. Uhl. 1998. Costs and benefits of forest management for timber production in eastern Amazonia. *Forest Ecology and Management* 108: 9-26.

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Dykstra D., P. Elias. 2003. Synthesis Report on Ex-Post Evaluations of Reduced-Impact Logging Projects. Yokohama: ITTO. 16 p.

Elias P., G. Applegate, K. Kartawinata, Machfudh, A. Klassen. 2001. Reduced Impact Logging Guidelines for Indonesia. Jakarta: CIFOR. 114 p.

Hendrison J. 1990. Damage-controlled logging in tropical rain forests in Suriname. Wageningen: Agricultural University, The Netherlands. 204 p.

Higman S., S. Bass, S, N. Judd, J. Mayers, R. Nussbaum. 1999. The sustainable forestry handbook. London, UK, Earthscan. 289 p.

Holmes T.P., G.M. Blate, J.C. Zweede, R. Pereira Júnior, P. Barreto, F. Boltz, R. Bauch. 2002. Financial and ecological indicators of reduced impact logging performance in the eastern Amazon. *Forest Ecology and Management* 163: 93-110.

Johns, A.G. 1997. Timber production and biodiversity conservation in tropical rain forests. Cambridge University Press.

Lentini M., A. Veríssimo, L. Sobral. 2003. Fatos florestais da Amazônia *2003*. Imazon. Belém, Brasil. 110 p.

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Pinard M. F. Putz, J. Tay, T. Sullivan. 1995. Creating timber harvesting guidelines for a reduced-impact logging project in Malaysia. *Journal of Forestry* 93: 41-45.

Pokorny, B., J. Johnson,, J. Nalvarte, G. Cayres (forthcoming). Estrategias de acompañamientos. *En:* Sabogal C. *et al.*: Manejo Forestal Comunitario en América Tropical: Experiencias, lecciones aprendidas y retos para el futuro.

Putz F.E., M.A. Pinard. 1993. Reduced-impact logging as a carbon-offset method. *Conservation Biology* 7 (4): 755-757.

Rice R.E., C.A. Sugal, S.M. Ratay, G.A.B. da Fonseca. 2001. Sustainable Forest Management. A Review of Conventional Wisdom. Conservation International 29 p.

Rogers E.M. 1983. Diffusion of Innovations, Third Edition. New York, NY: Free Press.

Sabogal C., M. Camacho, M. Guariguata. 1997. Experiencias prácticas y prioridades de investigación en silvicultura de bosques naturales en América tropical. Actas del Seminario-Taller realizado en Pucallpa-Perú del 17 al 21 de junio de 1996. Publicación Especial CIFOR/CATIE/INIA. 236 p.

Sabogal C., M. Lentini, B. Pokorny, J.N.M. Silva, J. Zweede, A. Veríssimo, M. Boscolo. 2006. Manejo Florestal Empresarial na Amazônia Brasileira: Restrições e Oportunidades - Relatório Síntese. CIFOR – Embrapa – Imazon – IFT. Belém – Pará, Brasil. 71 p.

Schwab O., R. Pulkki, G.Q. Bull. 2001. Reduced impact logging in tropical forests: literature synthesis, analysis and prototype statistical framework. Rome: FAO, Working Paper FOP/08. 283 p.

Schmitz H. 2002: Partnership among farmers, researchers, extensionists and their organisations: reflections on the agricultural knowledge system in the State of Pará, Brazil.

Shepherd G., D. Brown, M. Richards, K. Schreckenberg (eds.). 1998. The EU tropical forestry sourcebook. London: The Overseas Development Institute, London.

Sist P., T. Nolan, J.G. Bertault, D. Dykstra. 1998a. Harvesting intensity versus sustainability. *Forest Ecology and Management* 108: 251-60.

Sist P., D. Dykstra, P. Fimbel. 1998b. Reduced-impact logging guidelines for lowland and hill dipterocarp forest in Indonesia. CIFOR Occasional Paper 15. 19 p.

Sist P. 2000. Reduced-impact logging in the tropics: objectives, principles and impacts. *International Forestry Review* 2 (1): 3-10.

Winkler N. 1997. Environmentally sound forest harvesting: testing the applicability of FAO Model Code in Amazon in Brazil. Roma: FAO. (Forest Harvesting Case Study, Nº. 8).

Annex D – Project Products – Phase I

Publications and relevant documents produced by the Project PD 57/99 Rev. 2 (F) "Sustainable Management of Production Forests at the Commercial Scale in the Brazilian Amazon" from 2000 to 2007

Year	Title	Author/s	Reference
A. BOOKS & TECHNICAL REPORTS			
2000	Diagnóstico sócio-econômico da indústria madeireira Peracchi no Tailândia, Estado do Pará [Socioeconomic diagnosis of the *Peracchi* timber industry in Tailândia, Para State]	Pokorny B.; Sousa, R.	Embrapa Documentos 33. Nov. 2000. 105 p.
2000	Estudo aplicativo de critérios e indicadores para avaliar sustentabilidade em uma empresa florestal em Tailândia, Pará na Amazônia Brasileira [Criteria and indicators to assess sustainability in a forest enterprise in Tailândia - Para, Brazilian Amazon]	Pokorny B.; Bauch, R.	Embrapa Documentos 34. Nov. 2000. 114 p.
2000	Diretrizes técnicas para a exploração de impacto reduzido em operações florestais de terra firme na Amazônia brasileira [Technical guidelines for reduced impact logging in terra firme forests in the Brazilian Amazon]	Sabogal C.; Silva, J.N.M.; Zweede, J.; Pereira Júnior, R.; Barreto, P; Guerreiro, C.A.	Embrapa Amazônia Oriental, Documentos 64. 52 p.
2002	Manejo integrado de florestas úmidas neotropicais por indústrias e comunidades: aplicando resultados de pesquisa, envolvendo atores e definindo políticas públicas [Integrated Management of Neotropical Rain Forests by Industries and Communities: Applying research results, involving stakeholders and defining policy]	Sabogal C.; Silva, J.N.M. (edits. téc.).	Atas do Simpósio Internacional da IUFRO, Belém – Pará, Brasil, 4 - 7 de Setembro de 2000. 476 p. [Seminar proceedings]
2005	Contabilidade de custo e eficiência de produção da indústria madeireira na Amazônia Brasileira [Cost accounting and production efficiency of the timber industry in the Brazilian Amazon]	Pokorny B.; Merry, F.	Relatório final. Banco da Amazônia – IPAM – CIFOR - Embrapa – FFt. 128 p.
2005	Diretrizes para instalação e medição de parcelas permanentes em florestas naturais da Amazônia brasileira [Guidelines for the establishment and measurement of permanent sample plots in natural forests in the Brazilian Amazon]	Silva J.N.M.; Lopes, J.C.A.; Oliveira, L.C.; Silva, S.M.A.; Carvalho, J.O.P.; Costa, D.H.M.; Tavares, M.J.M.	Embrapa Amazônia Oriental, 68 p.
2007	Diretrizes técnicas de manejo para produção madeireira mecanizada sustentável em florestas de terra firme na Amazônia brasileira	Sabogal, C.; Pokorny, B; Silva, J.N.M.; Carvalho, J.O.P.; Zweede, J.; Puerta, R.	Projeto Bom Manejo / Embrapa Amazônia Oriental – Scheduled for November 2007
B. MANUALS			
2007	Manual de Vistoria de Campo para Planos de Manejo Florestal Madeireiro na Amazônia [Manual for auditing forest management projects in Amazonia]	Pokorny B.; Sabogal, C.; Galvão, C.A.; Mendonça, R.; Silva, J.N.M.; Carvalho, J.O.P.;	EMBRAPA – IBAMA / ProManejo. Brasília D.F. 105 p., including CD-Rom

Year	Title	Author/s	Reference
		Puerta, R.; Zweede, J.	
2007	Manual del usuário del software: Monitorammento Econômico de Operações Florestais - MEOF [User's manual of the software for economic monitoring of forest operations - MEOF]	Projeto Bom Manejo / Amasoft Consultoria e Sistemas	Projeto Bom Manejo / Embrapa Amazônia Oriental – 2007
2007	Manual del usuário del software: Monitoramento de Florestas Tropicais - MFT [User's manual of the software for monitoring tropical forests - MFT]	Projeto Bom Manejo / Amasoft Consultoria e Sistemas	Projeto Bom Manejo / Embrapa Amazônia Oriental – 2007
2007	Manual del usuário del software: Monitoramento de Florestas Tropicais Simplificado - MFTS [User's manual of the software for simplified monitoring tropical forests - MFTS]	Projeto Bom Manejo / Amasoft Consultoria e Sistemas	Projeto Bom Manejo / Embrapa Amazônia Oriental – 2007
2007	Manual del usuário del programa auxiliar no desenvolvimento de equações de volume - SMALIAN [User's manual of the software for developing volume equations - SMALIAN]	Projeto Bom Manejo / Amasoft Consultoria e Sistemas	Projeto Bom Manejo / Embrapa Amazônia Oriental – 2007
2007	Manual del usuário del software: Planejamento da colheita e controle da produção florestal - PLANEJO [User's manual of the software for harvesting planning and control of forest production - PLANEJO]	Projeto Bom Manejo / Amasoft Consultoria e Sistemas	Projeto Bom Manejo / Embrapa Amazônia Oriental – 2007
2007	Manual del usuário del software: Monitoramento das operações de manejo florestal - MOP [User's manual of the software for monitoring forest management activities - MOP]	Projeto Bom Manejo / Amasoft Consultoria e Sistemas	Projeto Bom Manejo / Embrapa Amazônia Oriental – 2007
2007	Manual para a organização da contabilidade financeira e gerencial para empresas madeireiras na Amazônia	Xavier J.; Pokorny, B.	Projeto Bom Manejo / Embrapa Amazônia Oriental - Scheduled for November 2007
2007	Manual do gerenciamento social para empresas madeireiras na Amazônia Brasileira	Martins D.; Pokorny, B.	Projeto Bom Manejo / Embrapa Amazônia Oriental - Scheduled for November 2007
C. SCIENTIFIC & TECHNICAL PAPERS			
2001	Introducing criteria and indicators for monitoring and auditing forest management in the Brazilian Amazon	Pokorny B.; Sabogal, C.; Prabhu, R.; Silva, J.N.M.	*In:* Colfer, C.J.P., Byron, Y. (eds.). People managing forests: the links between human well-being and sustainability. Washington, DC, USA, Resources for the Future and CIFOR

Year	Title	Author/s	Reference
2001	Metodologías para evaluar la aplicación de criterios e indicadores en el manejo forestal de bosques tropicales en América Latina	Pokorny B.; Sabogal, C.; Camino, R.	Revista Forestal Centroamericana, 36: 14-19
2001	IUFRO International Symposium: Integrated Management of Neotropical Rain Forests by Industries and Communities. Applying research results, involving stakeholders and defining policy	Sabogal C.; Silva, J.N.M.	Bois et Forêt des tropiques, 269 (3): 95-97
2004	Criterios e indicadores para el monitoreo de operaciones forestales: un caso en Brasil	Pokorny B.; Sabogal, C.; Silva, J.N.M.; Souza, J.; Bernardo, P.	Revista Recursos Naturales y Ambiente, 42: 19-28.
2004	Manual sobre Técnicas de Manejo Forestal para Profesionales Forestales	Sabogal C.; Carrera, F.; Colán, V.; Pokorny, B; Louman, B.	Proyecto INRENA-CIFOR-FONDEBOSQUE– CATIE. Lima, Perú. 279 p.
2005	Compliance with reduced-impact harvesting guidelines by timber enterprises in terra firme forests of the Brazilian Amazon	Pokorny B.; Sabogal, C. Silva, J.N.M.; Bernardo, P.; Souza, J.; Zweede, J.	International Forestry Review 7(1): 9-20
2005	Collaborative monitoring of production and costs of timber harvest operations in the Brazilian Amazon	Pokorny B.; Steinbrenner, M.	Ecology and Society 10 (1): 3. [online] URL: http://www.ecologyandsociety.org/vol10/iss1/art3/
2005	IUFRO international seminar-workshop Towards better management practices in tropical humid forests: developing principles and recommendations for the Amazon Basin	Sist, P.; Garcia C.; Sabogal, C.	Bois et Forêts des Tropiques 285 (3): 71-75
2006	Partnership for good forest management. A joint initiative of researchers and timber industries in the Brazilian Amazon.	Silva J.N.M.; Pokorny, B.; Sabogal, C.; Carvalho, J.O.P.; Zweede, J.	ITTO Tropical Forest Update 16/4: 10-13
2006	Efeito da exploração de madeira e dos tratamentos silviculturais na diversidade de espécies do povoamento florestal remanescente na região do Jari, Amapá [Effect of logging and two silvicultural treatments on species diversity in a residual forest stand in the Jari region, Amapa]	Azevedo C.P.; Sanquetta, C.R.; Silva, J.N.M.; Carvalho, J.O.P.; Lopes, J.C.A.; Souza, C.R.	*In:* Seminário "Dinâmica de florestas tropicais", 2006, Belém. GT Monitoramento de Florestas
2006	Efeito da exploração de madeira e tratamentos silviculturais sobre a estrutura horizontal de uma área de 136 ha na Floresta Nacional do Tapajós, Belterra-Pará [Effect of logging and silvicultural treatments on the horizontal structure of a 136 ha large area at the Tapajós National Forest, Belterra – Para]	Oliveira L.C.; Couto, H.T.Z.; Silva, J.N.M.; Carvalho, J.O.P.	*In:* Seminário "Dinâmica de florestas tropicais", 2006, Belém. GT Monitoramento de Florestas
2006	Mudanças nas populações de louros em conseqüência da exploração florestal na Fazenda Rio Capim, Paragominas, Pará [Changes on the Lauraceae population as a result of logging at the Rio Capim Management Unit in Paragominas, Para]	Melo A.S.G.; Carvalho, J.O.P.	*In:* Seminário "Dinâmica de florestas tropicais", 2006, Belém. GT Monitoramento

Year	Title	Author/s	Reference
			de Florestas
2006	Anelagem de árvores e plantio em clareiras como silvicultura pós-colheita em floresta natural na Amazônia brasileira [Girdling of trees and planting in gaps as post-harvest silviculture in natural forests in Brazilian Amazonia]	Carvalho, J.O.P.; Silva, J.N.M.; Silva, M.G.	*In:* Forest 2006 – 8th Forest International Congress. Cuiabá, MT, Brazil
2006	Manejo Florestal Empresarial na Amazônia Brasileira: Restrições e Oportunidades - Relatório Síntese [Industrial-Scale Forest Management in the Brazilian Amazon: Constraints and Opportunities. A synthesis report]	Sabogal C.; Lentini, M.; Pokorny, B.; Silva, J.N.M.; Zweede, J.; Veríssimo, A.; Boscolo, M.	CIFOR – Embrapa – Imazon – IFT. Belém – Pará, Brasil. 71 p.
2006	Manejo forestal empresarial en la Amazonía brasileña: Restricciones y oportunidades para la adopción de buenas prácticas de manejo [Industrial-scale forest management in the Brazilian Amazon: Constraints and opportunities for the adoption of good management practices]	Sabogal C.; Lentini, M.; Pokorny, B.; Silva, J.N.M.; Zweede, J.; Veríssimo, A.; Boscolo, M.	Recursos Naturales y Ambiente 49-50: 81-89.
2007	Mudanças ocorridas na composição florística em decorrência da exploração florestal em uma área de floresta de terra firme na região de Paragominas, PA (Changes on floristic composition after logging in a *terra firme* forest in the region of Paragominas, PA)	Francez, L.M.B.; Carvalho, J.O.P.; Jardim, F.C.S.	Acta Amazônica, V. 37 (2), p.219-228
2007	Conformidade com as diretrizes de exploração de impacto reduzido por empresas madeireiras em florestas de terra firme da Amazônia brasileira	Pokorny B.; Sabogal, C.; Silva, J.N.M.; Bernardo, P.; Souza, J.; Zweede, J.	Embrapa Amazônia Oriental, Documentos, - Scheduled for November 2007
D. UNIVERSITY THESES			
2005	Efeito da exploração de madeira e de diferentes intensidades de desbastes sobre a dinâmica da vegetação de uma área de 136 ha na Floresta Nacional do Tapajós [Effect of logging and different intensities of thinning on the dynamics of the vegetation on a 136 ha large area in the Tapajós National Forest]	Oliveira, L.C.	D. Phil. Thesis Embrapa / UFRA / ESALQ
2006	Dinâmica de florestas submetidas a manejo na Amazônia oriental: experimentação e simulação [Dynamics of forests under management in the Eastern Amazon: experimentation and simulation]	Azevedo, C.P.	D. Phil. Thesis Embrapa / UFPR
2006	Banco de sementes do solo de uma floresta tropical de terra firme na Fazenda Rio Capim, Paragominas, PA, aos 13 meses após exploração de impacto reduzido [Soil seed-bank of a terra firme tropical forest 13 years after reduced impact logging in the Rio Capim Management Unit, Paragominas, Para]	Quanz, B.	M.Sc. Thesis Embrapa / UFRA / CIKEL
2006	Impacto da exploração florestal na estrutura de uma área de floresta na região de Paragominas, Pará, considerando duas intensidades de	Francez, L.M.B.	M.Sc. Thesis Embrapa /

Year	Title	Author/s	Reference
	colheita de madeira [Logging impacts on forest structure under two harvest intensities in the Paragominas region, Para, Brazil]		UFRA / CIKEL
2006	Avaliação da quantidade de resíduos lenhosos em área de floresta explorada e não-explorada, utilizando amostragem por linha interceptadora, no médio Moju, Pará [Evaluation of the volume of coarse woody debris in a logged and unlogged forest area using the line intercepting sampling method in Moju, Pará]	Cruz Filho, D.	M.Sc. Thesis Embrapa / UFRA/ Juruá Florestal
2006	Avaliação dos danos e métodos de regulação da floresta submetida à exploração de impacto reduzido na Amazônia oriental [Damage evaluation and yield regulation methods in a reduced-impact logging forest area in the Eastern Amazon]	Martins Filho, S.E.C.	M.Sc. Thesis Embrapa / UFRA / Juruá Florestal / IBL
2002	Evaluation de la vulnerabilité des populations de trios espéces (*Manilkara* spp.) face à l´exploration forestière sélective en Amazonie	Gayot M.	M.Sc. Thesis EMBRAPA / CIRAD / Cikel
E. FOLDERS			
2006	Projeto Bom Manejo – Uma ponte entre a pesquisa e a adoção de boas práticas de manejo	Projeto Bom Manejo	Projeto Bom Manejo / Embrapa Amazônia Oriental – 2006
2006	MFT – Ferramenta para monitoramento de florestas tropicais	Projeto Bom Manejo	Projeto Bom Manejo / Embrapa Amazônia Oriental – 2006
2006	MEOF – Uma ferramenta para monitoramento econômico de operações florestais	Projeto Bom Manejo	Projeto Bom Manejo / Embrapa Amazônia Oriental – 2006
2006	SMALIAN – Uma ferramenta auxiliar para o desenvolvimento de equações de volume de árvores	Projeto Bom Manejo	Projeto Bom Manejo / Embrapa Amazônia Oriental – 2006
2006	Vistoria de Planos de Manejo Florestal usando critérios e indicadores	Projeto Bom Manejo	Projeto Bom Manejo / Embrapa Amazônia Oriental – 2006

ANNEX E: Summary of the 35th Expert Panel recommendations and action taken

RECOMMENDATIONS	Sections were actions were taken	
	Page	Item
1. Merge the two specific objectives into one, as these overlap each other;	6 19 20 22	1.2 3. Outputs 4. Activities Logical framework
2. Further enhance the section on technical and scientific aspects, to include other SFM techniques in addition to RIL;	13 14	Post-harvesting silviculture The financial dimension of RIL
3. Establish synergies with all currently ongoing ITTO projects in Brazil containing an SFM training component;	16	2.5.4 Synergies with ongoing ITTO projects on SFM
4. Incorporate the application of ITTO C&I as a tool to assess progress towards achieving SFM;	18 21 27 30 38	2.7 (2nd paragraph) 6.4 and 6.5 6.4 and 6.5 6.4 and 6.5 6.4 and 6.5
5. Provide for Spanish versions of the software tools and other major outputs to be developed by the project;	19 20 26 28 29 30 36 37 38	Outputs 3 and 4 Items 3.4 and 4.3; output 7 Logical Fram: outputs 3 and 4 Output 7 Output 3 and item 3.4 Item 4.3 and output 7 3.4 4.3 Output 7
6. Clearly describe the role of MMA in the implementation of the project;	1	Summary
7. Project administration and support staff (secretary) costs (items 13.2, 13.4 and 65) currently account for 20% of the ITTO contribution to be allocated to the EA. Such management costs (administrative and overhead) should be part of the Executing Agency contribution, as stated in the ITTO Manual for Project Formulation (second edition);	32 - 39 41	Budget Fund Administration
8. Recalculate the ITTO's Programme Support Costs so as to conform to the new standard of 8% of total ITTO project costs as decided by the 35th ITTC, and include an additional US$ 10,000 to cover the cost of an independent mid-term evaluation under Component 70: ITTO M&E; and	32 - 39	Budget
9. Include an Annex which shows the recommendations of the 35th Expert Panel and the respective modifications in tabular form. Modifications should be highlighted (bold and underline) throughout the revised project proposal document.	68	This Annex