

INTERNATIONAL TROPICAL TIMBER ORGANIZATION

ITTO

PROJECT DOCUMENT

TITLE	DEVELOPMENT OF HUMAN RESOURCES IN SUSTAINABLE FOREST MANAGEMENT AND REDUCED IMPACT LOGGING IN THE BRAZILIAN AMAZON
SERIAL NUMBER	PD 206/03 Rev.1 (F)
COMMITTEE	REFORESTATION AND FOREST MANAGEMENT
SUBMITTED BY	GOVERNMENT OF BRAZIL
ORIGINAL LANGUAGE	ENGLISH

SUMMARY

Lack of qualified and trained forestry practitioners is a key problem impeding the adoption of good forest management practices in the Amazon. This project will promote sustainable forest management (SFM) in the Amazon with a three-part strategy designed to develop the human resources in the forest sector of Amazon Basin countries. Part one of the strategy consists of 38 practical, on- and off-site training courses targeting 410 forestry professionals at all levels and tailored to their diverse needs and interests. This part of the strategy teaches professionals why and how to implement forest management (FM) principles and reduced-impact logging (RIL) techniques. The second component of the strategy aims to promote interest in FM-RIL – and raise awareness about its importance and benefits – among the numerous forest stakeholders who do not understand the concepts of FM and RIL or are not yet convinced of their feasibility. This part of the strategy entails rainy season extension work consisting of lectures, small seminars, and workshops. At least 400 people will participate in these events.

The third part of the project strategy is to continue the successful FM-RIL training program of the Fundação Floresta Tropical (FFT), which will execute this project. This program – funded in part by a previous ITTO grant – is now evolving into a longer-term, more sustainable training program. While the Brazilian government works with FFT and other partners to develop this more sustainable training program, it is critical to maintain the burgeoning interest in – and partially satisfy the demand for – FM-RIL training by sustaining FFT.

EXECUTING AGENCY FUNDAÇÃO FLORESTA TROPICAL

COOPERATING GOVERNMENTS ---

DURATION 24 MONTHS

APPROXIMATE STARTING DATE JUNE 2003

BUDGET AND PROPOSED SOURCES OF FINANCE	Source	Contribution in US\$	Local Currency Equivalent
	ITTO	599,650	
	FFT/TFF	979,960	
	TOTAL	1,579,610	

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PART I. CONTEXT

1.1 Origin

Since 1995, the Fundação Floresta Tropical (FFT) has been an important player in the promotion of improved forest management (FM) and reduced-impact logging (RIL) in the Brazilian Amazon. The FM-RIL training program given by FFT has been the major source of skilled labor for the forest industry and has been cited as one of the best NGO conservation programs by the Pará State Government.

The FFT program has been supported by many international donors, including among others: USAID, PROMANEJO-PPG7, and ITTO. Indeed, through its support of the project “*On-site training of tropical foresters and forestry trainers (PD 45/97 Rev. 1(F))*”, the ITTO is largely responsible for the content of the current FFT training program.

The practical training offered by FFT, along with many other related efforts, has catalyzed a strong interest in forest management and created a demand for skilled forestry personnel at all levels. In the past 6 years, FFT has received an increasing number of requests for qualified people from all sectors as well as from all types of producers (Figure 1). FFT’s program has expanded during this period trying to address the human resources dilemma of the forest sector. Between 1996 and 2000 the number of trainees graduating from the FFT program increased dramatically (Figure 2). Importantly, all of the trainees found forestry work immediately.

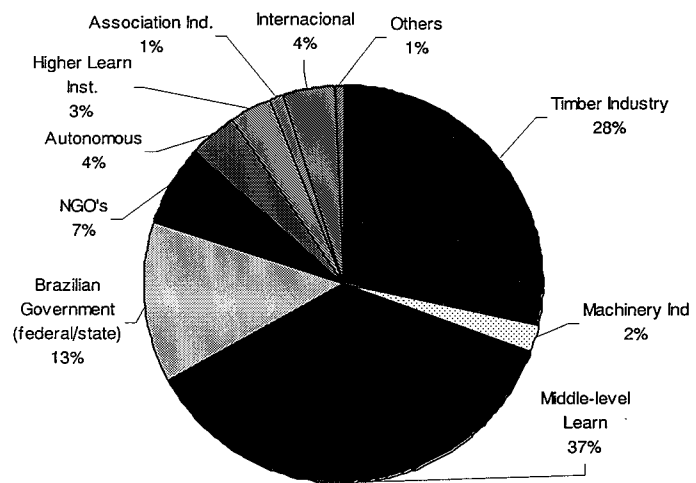


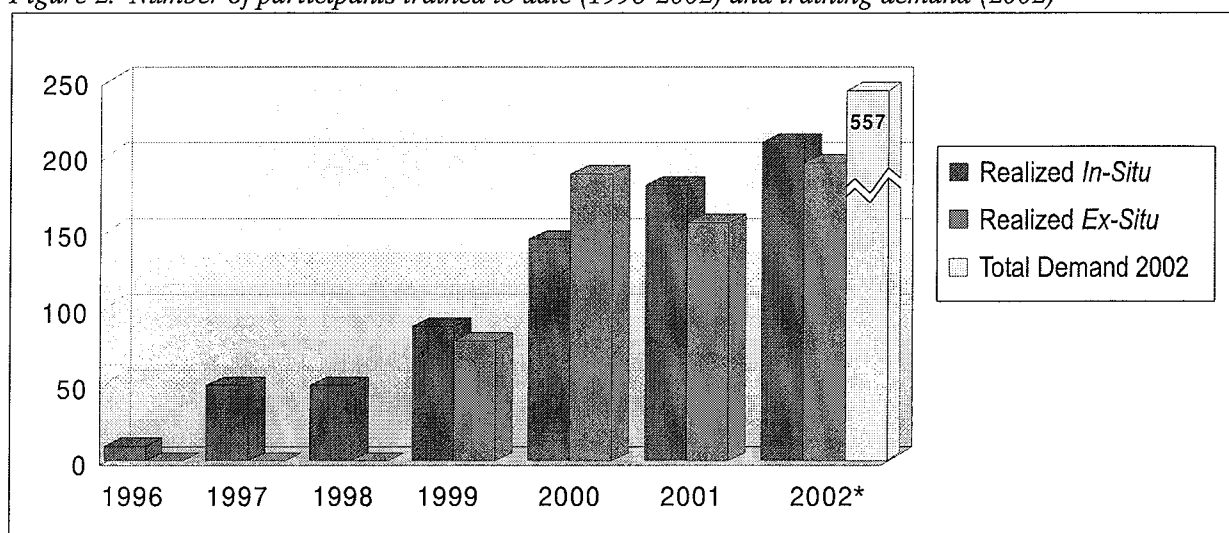
Figure 1. Participants from different sectors in FFT FM-RIL training program (1996-2001; percent of total people trained).

As Figure 2 (next page) illustrates, FFT has just begun to fulfill the large demand for trained forestry personnel in the region. Furthermore, FFT courses have been the only source of trained field personnel in Brazil until last year when other related initiatives started regional training programs. Some of these new initiatives have developed their activities based on FFT’s experience and many of their trainers previously received training in FFT courses. Nevertheless, The demand for training in all aspects of forest management is greater than the combined capacity of FFT and the newer training initiatives that FFT also supports. In addition, FFT’s reliance on annual grants to continue its training program is untenable over the longer term. Therefore, FFT has been working with the Brazilian government (GoB) and other partners on a viable solution to these problems – a permanent Amazon forest management training center.

In the past year, the GoB, FFT and other partners have advanced significantly towards the establishment of the training center. In October 2001, FFT completed a proposal and business

plan to establish a new Brazilian entity, Instituto Floresta Tropical (IFT), that will absorb FFT's current program and evolve¹ into a more sustainable long-term forest management training program. In December 2001, FFT met with various donors to seek financing for a training facility². In April 2002, the Brazilian Ministry of the Environment (MMA) signed a letter of cooperation with FFT (see Annex G) to indicate its endorsement of the idea of a training center and its desire to collaborate with FFT to develop it. To further this goal, the MMA convened a meeting of key forest stakeholders to discuss key issues relating to the establishment of a training center. All participants agreed on the importance of establishing a sustainable training program as soon as possible. Despite this progress, various details must still be decided. In the meantime, it is critical to continue FFT's current training services to bridge the gap between the present³ and the inception of a more sustainable training program.

Figure 2. Number of participants trained to date (1996-2002) and training demand (2002)



In-situ = courses conducted at Fazenda Cauaxi, near Paragominas, Pará

Ex-situ = courses conducted at various other sites in the Amazon

*Projected based on participants trained to date, courses scheduled & total requests for training (see Annex F for details on requests for training by sector and level)

1.2 Sectoral Policies

The great majority of the wood produced in Amazonia comes from predatory origin. At present, of the 30 million cubic meters of wood harvested annually in the region 75% comes from legally authorized deforestation, 20% from illegal sources, and only 5% from areas with regular forest

¹ IFT became a legal Brazilian NGO on October 30, 2002.

² The United States Agency for International Development (USAID) and the United States Forest Service (USFS) are providing counterpart funding for FFT and IFT to develop a more sustainable training program and GTZ pledged finances for the infrastructure of a permanent training facility.

³ FFT has already (October 2002) received official letters from the 4 Amazon technical schools requesting scheduling for 5 courses for the training year 2003; FFT training is part of each school's curriculum. The four schools are: Juscelino Kubitschek de Oliveira State Agro-industrial School, Marituba, Pará; State Forest School, Rio Branco, Acre; Federal Agro-technical School in Castanhal, Pará; Federal Agro-technical School in Manaus, Amazonas.

management plans.⁴ The roots of this problem lie both within and beyond the forest sector and comprise social, economic, financial, legal, political, institutional and technical dimensions. Two recently promulgated sectoral policies that are contributing in a significant way to address the problem are the Pilot Program for the Conservation of the Brazilian Rainforest – administered by the World Bank and financed by the G7 (ProManejo-PPG7) – and the National Forest Program (PNF).

One of ProManejo's principal objectives is to support the development and the adoption of sustainable systems of forest management in Amazonia, with emphasis on wood products extraction, through strategic actions and pilot experiences in priority areas. ProManejo consists of four components:

- Strategic analyses to subsidize the formulation of public policies
- Support and promotion of promising initiatives of forest management
- Development and testing of a pilot system for control and monitoring of forest-based activities
- Management of the Tapajós National Forest especially in conjunction with nearby communities

The Brazilian government launched the National Forest Program (PNF) in September 2000. The objective of the National Forest Program, determined by Decree No. 3420, dated April 20, 2000 is to promote sustainable forest development, harmonizing economic use with the protection of ecosystems, and making forest policy compatible with the other public policies, so as to promote the expansion of markets both at home and abroad and the institutional development of the sector.

The PNF⁵ aims to (i) expand national, state and local forests in the Legal Amazon by 50 million hectares by 2010 (10 million ha by 2003); and (ii) incorporate into the system of sustainable management an area of 20 million hectares of natural forests in private properties in the Amazon region by the year 2010.

The new legislation and technical guidelines are designed to promote sustainable use of the forest resource. Coupled with a growing acceptance of the need for improved management by the forest industry these national programs have exposed the significant shortage of qualified forestry practitioners in the region. This shortfall exists across all levels of practitioners – from woodsmen to forest managers – and among all stakeholders and producers. This lack of trained people constitutes one of the greatest obstacles to the adoption of good forest management practices across the Amazon. Indeed, it leaves the forest sector with limited capacity to comply with government regulations.

In addition to the PNF and ProManejo, the GoB has promulgated or eliminated other land use policies to ensure that land is put to its best use. These new policies allow forestry to better compete with other land use options. The socioeconomic impacts of these new policies regarding the benefits of adopting good forest management practices are very clear: the number of

⁴ Sobral L, Veríssimo A, Lima E, Azevedo T, Smeraldi R. 2002. Acertando o alvo 2: consumo de madeira amazônica e certificação florestal no Estado de São Paulo. Belém. Imazon. 72p.

⁵ PNF. 2001. National Forest Program-PNF. Brasília. MMA/SBF/DIFLOR. 54p.

permanent jobs created in rural areas is more than twice as compared to conventional management and more than three times the jobs generated by other land uses, such as cattle ranching. Training has promoted better salaries in forestry and new job opportunities for young foresters. Timber companies interested in applying RIL are requiring that senior foresters, acting as consultants, be familiar with these techniques. This requirement has raised a great deal the demand by junior and senior foresters for training courses.

1.3 Programs and Operational Activities

The PNF and ProManejo objectives are part of an overall vision of improved forest management in the Amazon. And, as a result of extensive international and domestic support things have begun to change. A growing number of producers have already begun to adopt better forest management practices. For example, there are now 332,000 of FSC certified forests in Brazilian Amazon and 467,000 ha under certification review; five years ago there were no FSC certified forests in the Brazilian Amazon.

ProManejo has been promoting several initiatives with the purpose of generating demonstrative effects and to disseminate knowledge on forest management in the region, including sensitization activities, training on forest management and supporting a series of projects of forest extension and technical support close to communities and companies.

Furthermore, the ITTO has shown a remarkable commitment to Brazil and the conservation of the Amazon forest through its "Reforestation and Forest Management" projects and its "Forest Industry" Projects. As mentioned above, FFT executed the ITTO funded project "On-site Training for Tropical Foresters and Forestry Trainers" PD045/97 Rev.1 (F). FFT is also involved as a sub-contractor in the more recently funded technology transfer project "Sustainable Management of Production Forests at the Commercial Scale in the Brazilian Amazon" PD 57/99 Rev. 2 (F). Other recent reforestation and forest management projects include:

- PD013/96 Rev.1 (F) Multiple Use Management in the Macaú National Forest based on Rubber Estates – Phase I: Development of Master Plan to support Community Organization – Amazon Workers Center (CTA)
- PD030/95 Rev.1 (F) II.II Dissemination and Training on ITTO Guidelines and Criteria – Phase II, Stage II -- FUNPAR
- PD068/89 Rev.1 (F) Management of Tapajós National Forest for Sustainable Production of Industrial Timber -- IBAMA
- PPD004/97 Rev.1 (F) Rehabilitation of Damaged Areas of the "Cerrado" -- Pro-Cerrado Foundation
- PPD007/97 Rev.1 (F) Forest Inventory for the Sustainable Production of Mahogany Timber – IBAMA

Recent forest industry projects include:

- PD007/94 Rev.3 (M,I) Information and Technical Assistance for Production and Trade on Tropical Timber -- SINDIMAD

- PD037/94 Rev.3 (I) Strengthening of the Forest Products Laboratory of IBAMA -- IBAMA
- PD040/99 Rev.2 (I) IV Plywood and Tropical Timber International Congress -- ABIMCI
- PD094/90 Rev.3 (I) Integration of Forest Based Development in the Western Amazon, Phase II – Technology for Sustainable Utilization of Raw Forest Materials -- FUNTAC

The proposed project will complement these as well as the various other conservation and forest management projects in the Brazilian Amazon supported by the international community. It will also help mitigate key impediments that limit the efficacy of forestry laws and regulations including:

- Insufficient human resources at the regulatory agencies able to enforce the laws and regulations
- Lack of trained people to apply FM-RIL concepts and techniques
- Inadequate dissemination and transfer of appropriate FM techniques to stakeholders across the Amazon

PART II: THE PROJECT

1. Project Objectives

1.1 Development Objective

To promote the use of sustainable forest management practices by timber producers while increasing the socioeconomic benefits of forest management activities in the Brazilian Amazon.

1.2 Specific Objectives

- 1.2.1 Increase adoption of FM-RIL practices by timber producers in Amazonian production forests through practical training.
- 1.2.2 De-mystify the concept and promote the practice of FM-RIL amongst stakeholders in the Brazilian Amazon through extension work

2. Justification

2.1 Problem to be addressed

The Amazon Basin is the most diverse terrestrial region on earth. It is a storehouse of biodiversity and provides numerous ecological services at local, regional, and global scales. This vast area, comprising 9 countries, is also home to millions of people, many of whom rely on the Amazon's forests and other natural resources for their livelihoods.

The Brazilian Amazon alone encompasses 5 million km² and harbors 85% of Brazil's remaining natural forests. A recent study concluded that 83% of the remaining upland area of the Brazilian Amazon is suitable for forestry, with a commercial timber stock of about 60 billion cubic

meters⁶. The forest sector of the Brazilian Amazon employs more than half a million people and generates annual revenues of about \$US2.2 billion. The remaining Amazon Basin countries have smaller forest areas, but forestry plays an important role in land use throughout the region.

Considering its economic potential and the large area it affects, the forest sector should play an integral role in strategies to conserve the Amazon's environmental resources. This potential will only be realized, however, if producers⁷ improve their practices. A growing number of producers have already begun to adopt better forest management (FM) practices, but most forests across the Amazon are still being logged poorly⁸ and without regard to their long-term productivity and diversity. Moreover, workers employed by conventional logging operations often face poor or unsafe working conditions, lack of job security, and few opportunities for professional development.

In recognition of these problems, several Amazon countries have recently instituted new legislation and technical guidelines⁹ to promote sustainable use of forest resources and new national policies supporting the continued development of the forest sector. In Brazil, the National Forest Program (PNF) has made sustainable forestry an objective for the forest sector of the Amazon. In order to comply with the new legislation, the forest industry must understand and adopt improved FM practices. Many forest stakeholders have come to realize they can obtain long-term economic benefits by implementing FM principles and reduced-impact logging (RIL) practices. Increasingly, these stakeholders have begun investing in qualified personnel to implement FM-RIL practices, others are becoming interested in FM-RIL, and still others have yet to receive the message.

The FFT has provided much of the training and technical support for FM-RIL implementation in the past 6 years. Nevertheless, its capacity is not sufficient to meet the growing demand for training. The resulting shortfall in trained forestry practitioners at all levels constitutes a significant obstacle to the adoption of FM-RIL across the Amazon and leaves the forest industry unable to comply with government regulations.

The problem is summarized in the points below and described graphically on the following page:

- Increased legal and policy basis for sustainable management of Amazon forests
- Beyond subsistence agriculture, few employment opportunities exist for people living in Amazon Basin → FM-RIL requires more people at all skill levels than most other land use options in the Amazon and provides more stable employment

⁶ Schneider *et al.* 2000, *Amazônia Sustentável: limitantes e oportunidades para o desenvolvimento rural*, is available from the World Bank and AMAZON. According to this study, about 75 percent of the Brazilian Amazon remains forested and 15 percent has been cleared; an unknown proportion has been burned. The study also estimates that 90 percent of Brazil's hardwood production comes from the Amazon and nearly all of that wood (~ 34 million m³ annually) is consumed domestically.

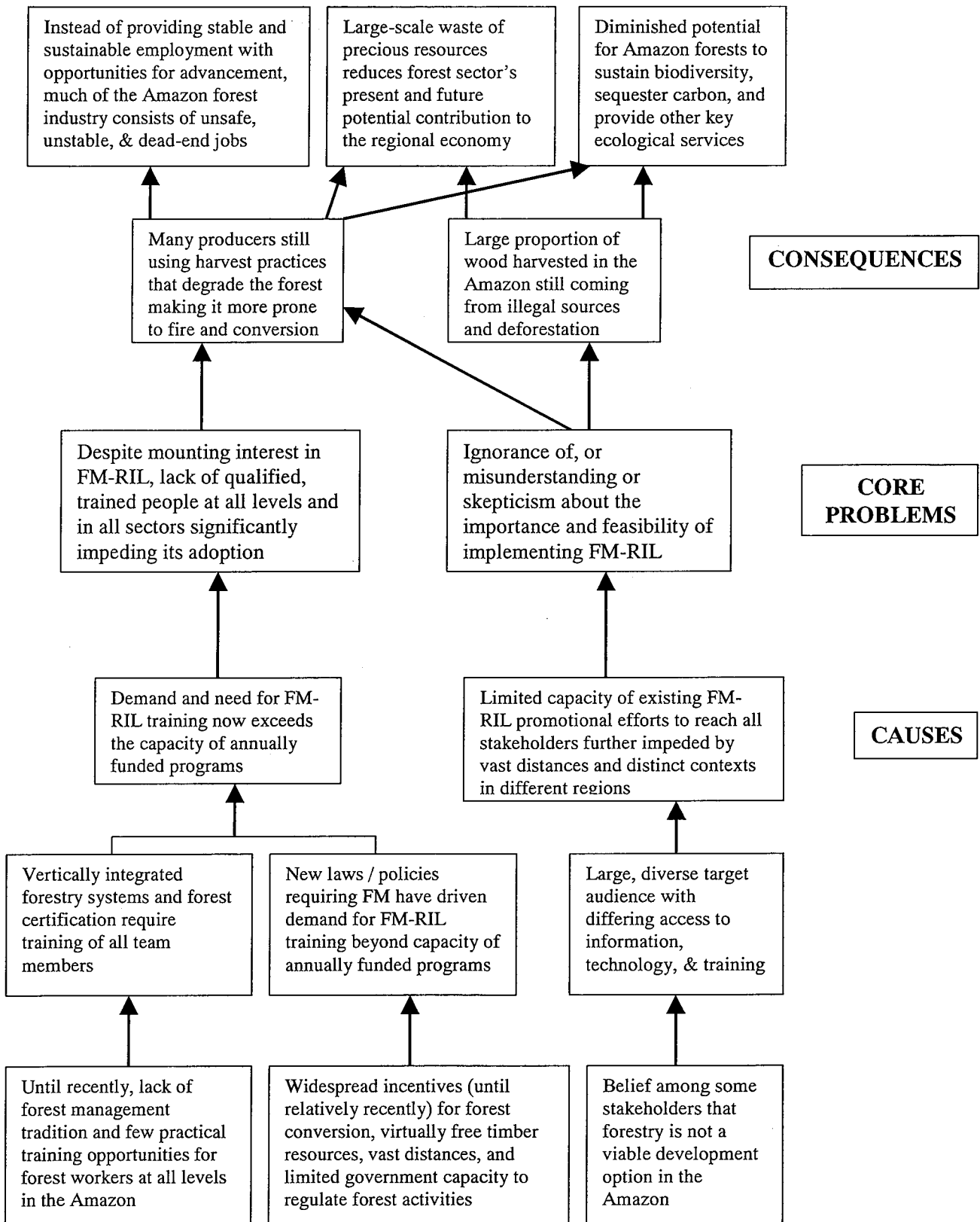
⁷ 'Producers' refers to people engaged in forest harvesting and milling activities.

⁸ In 1995, EMBRAPA conducted a forest management survey in Paragominas, and found that no producers had effective management plans.

⁹ IBAMA recently published general technical guidelines for the appropriate management of upland forests in the Brazilian Amazon.

- Interest in applying FM-RIL methods growing steadily, but ample time needed to effect significant change because forest industry in Amazon is large and complex, comprising industrial and community based producers
- Growing interest in forest certification by timber companies viz., 5 years ago – 80,000 ha (1 company); today over 330,000 ha certified (6 companies)
- Certification requires well trained personnel
- Lack of trained people to implement plans required by law has driven increased demand for training over past 5 years
- FFT trained most of the current professionals (both practitioners and trainers) in the Amazon
- Many producers still using harvest practices that degrade the forest making it more prone to fire and conversion
- Continued large proportion of wood harvested in the Amazon comes from illegal sources or deforestation
- IBAMA's new procedures for auditing forest management require the forest industry and community forestry project to employ trained workers, foresters and technicians
- To effectively audit and regulate the forest sector, IBAMA and state environmental agencies also require personnel trained in auditing activities
- Extension work is needed to promote and disseminate good forest management practices among the various forest sector stakeholders
- FFT's capacity unable to meet burgeoning demand / need for training; in addition, FFT program unsustainable because of reliance on annual grants
- The Brazilian government (GoB) – especially MMA, IBAMA, and the National Forest Program (PNF) – as well as FFT and partners are in the process of addressing the problems of long-term sustainability and training capacity by establishing a forest management training program that will serve all Amazon countries
- While such a training program is being developed, it's important to maintain growing interest in FM-RIL by sustaining FFT's training and extension program

Problem Tree



2.2 Intended situation after project completion

One of the principal outputs of the project is to contribute significantly toward the development of a cadre of trained forest sector professionals who can effectively implement improved forest management practices. Upon successful completion of the project, at least 410 people at all levels and from all forest sectors will be capable of effectively applying FM-RIL and thus will become part of this cadre. The positive impacts of these courses on both the remaining production forests as well as on the people and economy of the region will be manifest in several ways as explained in the sections on Economic, Environmental and Social Aspects.

Because of the vastness and diversity of the Amazon, many more people than can be accommodated in the proposed courses will still need training or to be convinced of the importance of improving the management of forest resources. After the project is completed, at least 450 people from different parts of the forest sector and different regions of the Brazilian Amazon will be more aware of the importance of improving forest management. These 450 participants in the proposed extension activities will also have a greater understanding of the conceptual basis of FM-RIL as well as the rationale for its implementation. The anticipated result of the extension work, therefore, is an increase in the number and geographic spread of forest stakeholders seeking FM-RIL training.

The development and refinement of training aids and manuals is another tangible output of this project. A trainer's manual for teaching FM-RIL in particular will help codify the kind of practical training that FFT has been conducting the past 7 years. These materials will be used in the proposed courses and extension work, but can also be adapted for use by other similar training initiatives. Finally, as IFT absorbs FFT's capacity and evolves to a more sustainable training program, the materials and manuals will provide credibility and standards for excellence in teaching.

A fourth anticipated outcome of the project is an increased capacity of regulatory and monitoring agencies to enforce the new laws and forest management guidelines. FFT has already trained several of IBAMA's field agents leaving that agency with a stronger ability to promote and enforce good management. The proposed courses will build on this past success.

A final key outcome of the project is continuation of the FFT training and extension program, which has helped shift the attitude that Amazon forests are an impediment to development to the attitude that they are the most likely means of achieving sustainable development for the region. By sustaining FFT's existing program, the project will not only accomplish the outcomes mentioned above, but will also contribute toward the development of a more comprehensive, long-term and sustainable training program that will provide the Amazon forest sector with a centrally important means to blossom: trained people at all levels.

2.3 Project strategy

The proposed bridging project has several elements that together constitute a strategy to address a key barrier to the adoption of FM-RIL across the Amazon Basin: the shortage of qualified and trained people.

First, through the 38 courses FFT will offer over two years, the project will help develop a critical mass of trained people who can implement FM-RIL. Because trained workers are needed at all levels (woodsmen to forest managers) and in all sectors (industry, government, communities, etc.), the project will develop and offer on- and off-site courses tailored to the specific participants. Although all of the people seeking FM-RIL training at present will not be able to participate in these courses because of limited capacity, the courses will nonetheless help satisfy some of the current demand while a more sustainable training program is developed.

Second, the project will promote and disseminate the concept of FM-RIL to many stakeholders across the Brazilian Amazon who have not yet learned about its benefits. This rainy season activity will complement the courses while building additional demand for practical training in the near term.

Third, the project will sustain FFT's program, which has helped catalyze the transition from conventional and otherwise poor logging practices to FM in the Brazilian Amazon. This aspect of the project strategy is important because FFT plays a significant role in several other projects in the Brazilian Amazon. In addition, by sustaining FFT's current program, the project will maintain the momentum of interest in FM-RIL and allow time for the GoB, FFT, and other partners to establish a longer term, sustainable training program for the Amazon region.

The importance of sustaining FFT's current training program and the temporary forest management center is exemplified by the fact that FFT has been involved with all companies presently certified by SFC standards and with more companies seeking certification and training it is very important to take advantage and maintain the present center located at Fazenda Cauaxi. Not only does this location offer forest management and RIL experience over a period of 8 years, the additional support offered by companies such as Caterpillar do Brasil, Andreas Stihl S.A, and CIKEL Verde do Brasil S.A. provide an advantage of counterpart support which would be hard to replace. The areas, which in the past 8 years have been ceded to FFT by CIKEL, and authorized for demonstration and training by IBAMA now have a very high training value for all levels of practitioner and in all forest management and RIL activities.

2.4 Target beneficiaries

The main beneficiaries of this project are:

- Forestry practitioners (rural laborers, sawyers, machine operators, technicians, foresters, supervisors, and managers) as well as landowners from ITTO member countries in the Amazon who will benefit from professional development (improved ability to implement required practices), and enhanced conservation of the resource on which they depend;
- Forest Technical Schools are one of the primary beneficiaries. In the past the Forest Technicians engaged in forest management in the Amazon region were from the schools in the south of Brazil. Two forest technical schools started up in the Amazon region in 1999 (Amazonas and Para states). In the year 2001 two more forest technical school programs were initiated, one in the State of Acre and one additional program in the state of Para. All of these forestry technical schools have made the FFT course part of their curriculum and have requested training programs for their students for the coming years. This level of

practitioner is of extreme importance because he is the field level individual lacking between the forester and the operator level.

- Wood industry sector (i.e. landowners, millowners, & companies engaged in forest management) in ITTO member countries in the Amazon who will benefit from (i) enhanced conservation of the resource on which they depend and (ii) potential economic benefits, both of which may be achieved through more efficient wood extraction;
- ITTO member countries in the Amazon by contributing to the adaptation and application of FM-RIL guidelines in different forest types and settings, which in turn will facilitate more efficient use of forest resources;
- Brazilian governmental and non-governmental institutions involved in the project by contributing to improvements in cross-sectoral linkages;
- Brazilian government entities at the National and State levels where supervisory personnel have been trained in FM and RIL practices.
- The global community by contributing to (i) a reduction in logging damage resulting in greater efficiency in the utilization of forests throughout the Amazon; and (ii) a reduction in ecological impacts resulting from current practices (e.g. losses to biodiversity, greater fire vulnerability, and decreased carbon sequestration potential);

2.5 Technical and scientific aspects

2.5.1 Training courses

2.5.1.1 Course Objectives

The training courses will emphasize principles of forest management consistent with ITTO's guidelines¹⁰ and the implementation and training of FM-RIL practices¹¹. The courses will be practical, hands-on, and tailored to the level and needs of trainees. The number and type of courses will be based on the demand from different levels and different parts of the forest sector. Each type of course targets a different audience and therefore has slightly different objectives (see below). In general, however, at the end of the courses, participants will be able to:

- explain basic principles of forest management for wood resources;
- explain the benefits and constraints of each component of RIL;
- conduct, demonstrate and/or supervise all FM-RIL components; and
- in some cases, train foresters, technicians and other forestry practitioners in the implementation of FM-RIL methods.

2.5.1.2 Course Content, Description, and Target Participants

During the courses, the participants will be divided into small groups in order to better carry out the practical fieldwork. At this time, everyone shall have the opportunity to observe and practice forest management and reduced impact logging field activities, as well as first aid and workplace safety practices. The participants will undertake pre-harvest activities, harvest planning, logging,

¹⁰ ITTO Policy Development Series 1.

¹¹ See, for example, Dykstra, D. and R. Heinrich. 1996. FAO model code of forest harvesting practice. Food and Agriculture Organization of the United Nations, Rome, Italy.

and post-harvest activities. They will gain practical and theoretical knowledge on the use of suitable FM-RIL techniques. The following section describes the rationale, objectives, content and target audience of each type of course FFT will offer during the project. Further details, including the number of subject hours of various activities for each type of course, are provided in Annex E.

General courses

GM- Forest management and Reduced Impact Logging to University Level

Rationale: Teach a new technology to forest managers. Companies that plan to adopt FM-RIL must have trained people who understand why they are changing methods. It is difficult to manage something that you have never done, and most managers have never been involved in any of these activities.

Participants: Supervising foresters at all levels and from all stakeholders (NGOs, government agencies, industry, communities). Also people who plan to disseminate this knowledge to others.

Objectives: Observe and participate in all aspects of FM-RIL to understand how and why different activities are done.

Contents: 12 days of hands-on participation and discussions.

MF- Forest management and Reduced Impact Logging to University Level

Rationale: Today's technical school graduates have little practical training and hence are not sufficiently prepared for the work they are hired to do.

Participants: Technical school students (seniors in final semester).

Objectives: Translate theory to practice. Prepare students to be capable of applying FM-RIL on the job in an effective manner.

Content: 13-day practical hands on-training focused on allowing participants to conduct all aspects of FM-RIL upon completion. The course focuses on activities appropriate for technicians.

TD – Decision maker

Rationale: Most decision-makers are removed from the reality of forest management and need to have insight into the theory and practice of FM-RIL.

Participants: Policy makers from regulatory and monitoring agencies (at both state and federal levels); community leaders, company executives, and landowners.

Objectives: The course is designed to remove the misconceptions surrounding FM-RIL and to de-mystify the process. This will enable participants to make informed decisions.

Content: Five days of demonstration, observation, and discussion regarding all aspects of FM-RIL. The course does not have a hands-on component.

TE - Off site RIL courses

Rationale: This course reaches people who are unable to attend on-site courses.

Participants: Company crews or community crews.

Objectives: Use team of trainers to train or upgrade a whole crew in a community or at a company's site. Typically, one member of the crew is trained on-site to facilitate the off-site training.

Content: 6 days on all aspects of FM-RIL

Specific Courses

TA – Audit techniques

Rationale: To increase the number of people who can assess the quality of forest management. Allows companies to get an idea of the quality of their operation.

Participants: Government and monitoring agencies as well as forest supervisors.

Objectives: Teach auditing criteria and indicators.

Content: 6 days of observation, lectures and discussion

TP – Pre-harvest techniques

Rationale: 100% inventory is a relatively new practice and concept. It is a new requirement in legislation and newly accepted by companies, but few people know how to do it.

Participants: Practical woodsmen, technicians and supervisors.

Objectives: To develop planning skills and to learn how to conduct pre harvest activities.

Content: 7 days of practical, hands-on block layout, forest inventory, and pre-harvest silvicultural treatments.

TC – On- and off-site felling techniques

Rationale: Felling directly affects value of wood through its impact on waste and damage.

Participants: Sawyers and sawyer supervisors in both industry and communities.

Objectives: Improve capacity of sawyers to cut trees safely, efficiently, and correctly.

Content: 7 days of safety, chainsaw maintenance and operation, and directional felling techniques

2.5.1.3 General aspects of FM-RIL to be undertake during courses

Pre-harvest Activities

Delimitation of the plot and guide trails

The participants will define and delimit the working units (WU) taking into account the hydrology and topography of the area. This activity involves opening trails, defining the physical area of the WU, and dividing the WU into smaller strips to carry out the inventory.

Forest inventory (100%)

The participants will undertake a pre-harvest inventory on 100% of trees with dbh over 35 cm (dbh \geq 35 cm). The inventoried trees will receive a numbered field sheet and tag with its respective order number. Then the natural felling direction of the trees as well as liana tangles,

streams (ephemeral and intermittent), topographic variation, soil variation (rockiness), presence of wild animals, nest trees and trees forbidden by law to log are recorded.

Vine Cutting

Vine cutting shall be coordinated and conducted by participants during the pre-harvest inventory. Vines are cut only if they are clinging to trees of commercial value that will be logged or if they are connect harvest trees with other trees. During the execution of this activity, the participants will be trained to verify the distribution of intertwined vines at the crowns of the trees and especially to verify whether the vine is slanted, so that when cut the lower portion does not touch the ground again, which would facilitate its regeneration.

The participants will also be alerted as to the importance of carrying out this activity one year before logging, with the objectives of (i) reducing the size of felling gaps; (ii) decreasing damage to the remaining vegetation; (iii) decreasing competition for nutrients and light; (iv) increasing capacity of forest regeneration; (v) increasing workplace safety in felling; and (vi) facilitating log extraction.

Definition of logging infrastructure

Planning secondary roads

The participants will define the number, width and length of secondary roads to be built within the WUs. Then they will plan and demarcate the roads. The participants shall be trained to always follow the paths of least resistance, avoiding larger trees and those of commercial value and commercial potential. The road shall then be marked to facilitate the tractor operator's job, in order to decrease machinery time and damage caused to the forest while building the road.

Planning

Road-building

While carrying out this activity the participants will accompany the tractor operator who will follow the markings for the planned road. First, the tractor will pass with its blade lifted breaking up plant material. Next, the tractor will return, leveling the ground and pushing the plant material to the sides of the road, removing as little topsoil as possible.

Planning landing areas

During this activity the participants will plan and define the number of landing areas. These landing areas will occupy an area of 500 m² (25x20m). The perimeter of the landing areas shall be marked so that the operator can easily follow the area set aside for construction; this planning reduces unnecessary clearing during construction.

Building landing areas

The participants shall accompany the building of the landing areas, observing the system that seeks to minimize damage and increase productivity. The construction is done from the outside inwards in the landing area. The tractor first breaks up the plant material, circles the entire area with the blade suspended, and then levels the area pushing the plant material to the sides.

Data processing

The participants will have contact with software that facilitates processing of data gathered during the pre-harvest inventory and that aids in planning harvest and post-harvest activities. The participants will have the opportunity to do calculations in databases and calculation sheets. With the aid of these and other software they shall generate lists of trees inventoried, desirable remaining trees to be logged, estimated volume to be logged, basal area and other data necessary for mapmaking and planning and execution of logging and post-harvest activities.

Mapmaking

The students will learn mapmaking techniques that facilitate planning and the undertaking of management activities. At least four types of maps in different scales will be used in practice during the training, these are:

Area Location Map: on a scale of up to 1:20,000, indicates the area to be managed, as well as access routes, geographical position and other topographical and hydrographical characteristics in the area.

Base Map: with inventory sheets in hand, all of the trees will be allocated on the base map using coordinates (x, y). This map is made at a scale 1:1,000 and contains all details regarding the plot and the trees inventoried from minimum dbh, providing a spatial view of all trees and characteristics existing in the area.

Logging Map: After making the base map, a logging map is made at a scale 1:1,000, with all trees to be logged, secondary roads and the stocking landing areas.

Felling/skidding Map: Smaller maps will be made based on the logging map with the landing areas and respective trees to be logged. These maps will be sent to the logging team that will do their work and deliver them to the skidding planning team and lastly to the skidding team.

Mapmaking will allow the participants an enhanced vision of the spatial distribution of the trees inventoried with respective classifications per commercial value. These maps also demonstrate vegetation variations (vine areas, clearings), rivers, streams and topographical variations (landmarks).

Selection and marking of harvest trees

Based on the species list, sizes used in industry and IBAMA criteria (dbh \geq 45cm), the participants shall select the trees to be logged, remaining trees and those to be protected and preserved. After selecting the trees to be felled and allocation of the trees on the planning map (logging map), the planning and logging teams will go into the field to verify and mark each category of tree selected.

Logging

Felling trees

The participants will gain theoretical-practical knowledge on the use, maintenance, and safety during tree felling operations with chainsaws.

With the cutting/skidding map in hand, the participants, together with the logging team, shall oversee the felling of the trees selected, defining the felling direction of each tree, and learning safety procedures for directional felling of the trees. The participants shall observe how felling trees in a planned and directed manner contributes towards the success of the skidding operation, reduces felling impacts, and reduces the waste of timber during the operation.

Planning skid trails

In the field classroom, the participants will plan all details of the skidding operation (how, when and why). They shall define the criteria for distribution and number of trails for each landing area as well as quantity of trees to be skidded by the main trail. The participants shall also define the standardization of markings to be utilized in the field during allocation of trails. In the field, they shall plan the skid trails, always seeking to decrease damage to the forest while increasing production.

Skidding trees

To undertake this activity, the participants shall discuss the advantages and disadvantages of different types of skidding methods and equipment. Next, they shall carry out the activity in the field, first receiving a theoretical-practical foundation on safety of the skidder team and the use and maintenance of the machinery during the execution of this activity.

During the execution of this stage the participants shall observe how planning reduces unnecessary movement of the machine (skidder) and consequently damage to the forest, as well as increases productivity of the skidding operation, thus decreasing operational costs.

Landing area operations

Together with the skidding exercise, the participants shall discuss the execution and procedures for measuring logs, stacking them and treating them to avoid cracking and attacks by fungi and/or insects, as well as accompany the loading and transportation of logs.

Post-harvest Activity

Based on prior knowledge of the forest and logging intensity, the participants shall discuss the best types of post-harvest intervention, such as silvicultural treatments, forest protection and forest monitoring.

Among others, the following silvicultural treatments shall be discussed: vine cutting, release thinning for future crop trees, and enrichment planting in natural and felling gaps. In each case the participants will have the opportunity to visit examples of these silvicultural treatments and discuss their effectiveness.

On the topic of forest protection the participants will have the opportunity to discuss how to prevent fires in logged forests, prevent poaching, manage fauna and control illegal logging on the management unit. It is important to point out to participants that these activities must be carried out in accordance with the needs of the area and/or region where the management is being undertaken.

Forest monitoring shall discuss best practices to be adopted for managing the forest. Here the participants will visit permanent plots and accompany a team installing or re-censusing a permanent plot, thus becoming better able to understand the development of the forest. They shall also have the opportunity to carry out a damage and waste assessment in the forest caused by logging.

Evening lectures and discussions

The course shall include additional introductory lectures on forest management and field practices in FM-RIL. The members of the FFT technical staff and consultants specialized in forest management from organizations with which FFT collaborates and cooperates will give the lectures and will introduce participants to topics on forest management such as:

- Forest protection
- Forest management system
- Forest management plans and POA (annual operational planning)
- Forest management certification
- Forest management costs and benefits
- Forest management legislation
- Forest management and biodiversity
- Visual aids/presentation

These lectures will be given in the FFT camp during the evening program. The discussions will be an opportunity for the participants and instructors to exchange ideas on the large variety of topics, always emphasizing the needs, challenges, innovations and future paths the forest sector is to take.

2.5.1.4 Participant Selection Process

Because an important goal of the project is to bridge FFT's current transitional period, and because the ITTO funds are limited, most participants will be Brazilians. However, the participation of qualified people from other ITTO member countries in the Amazon basin will be actively promoted if no additional project costs will be incurred.

Because the courses will be held in the Brazilian Amazon, the principal language will be Portuguese. Depending on the level of demand for training from other Amazon countries, FFT will make arrangements for the translation of materials into Spanish. Participants will be expected to cover their own travel expenses to arrive at the course and also to pay a nominal enrollment fee (about \$75) to guarantee their participation in the course and help cover course expenses. Some funds have been allocated for worthy participants who cannot cover all of their costs.

The number of participants accepted will depend on the type of course (see Annex D for details) but will vary between 8 and 15. Candidates must submit an application describing their background, qualifications and reasons for taking the course. To screen applications and select participants, FFT will:

- Solicit applications that include CVs, language proficiency, and qualifications; letters of support; and plan for disseminating or applying the lessons learned from the courses.
- Coordinate with the Steering Committee, and Technical Advisory Committee, to rank applications according to a system that ensures fair representation from government, industry, NGOs, and forest-based communities.
- Individuals and or groups from companies that have received subsidized training in the past and are certified are not eligible for these subsidized courses. In case where re-cycling is requested they will have to pay in full for these service. This includes the companies that are benefiting from the ITTO/Embrapa/CIFOR project and the partner company – CIKEL Verde do Brasil.

2.5.1.5 Course Scheduling and Promotion

Although FFT cannot predict with certainty the number and type of each course at this time, a tentative schedule for 2003 is presented in Annex D. FFT will fine-tune this schedule based on specific requests for training during the six months prior to the training season. Annex D also shows the number of participants that will be accepted for each type of course.

To be sure that the target audience learns about the courses, FFT will begin the following activities immediately upon receipt of grant funds:

- FFT will work with Tropical Forest Foundation (TFF) to develop and send out course announcements. These will describe details about the courses including objectives, content, dates, eligibility requirements, address for applications, etc.
- TFF and FFT will send the announcements to all potential interested parties including natural resource and forestry-related agencies and ministries in each country (also embassies), relevant university departments, industry associations, and NGOs across Amazonia.

2.5.2 Extension Work

The goal of the proposed extension activities is to stimulate interest in FM-RIL among a wide variety of stakeholders across the Amazon. To achieve this goal, FFT will provide information and basic education about FM-RIL through lectures, workshops, audio-visual presentations, and small seminars. These forums will allow FFT to de-mystify the terms ‘forest management’ and ‘reduced-impact logging’. In addition, through the proposed extension work, FFT will be able to diffuse information about FM-RIL to a broader geographic region and target audience than it could through courses alone. This diffusion will further stimulate interest in FM-RIL across the Amazon. Finally, the extension activities will provide a means for FFT to continue developing its capacity to adapt FM-RIL methods to different regions.

The target audience for these activities includes the following stakeholders/beneficiaries:

- Forest land owners
- Forest products industry owners and managers
- Independent forests and forest technicians
- Employees of government organizations

- Researchers and NGOs
- University and technical school teachers and students
- Forest community workers

The specific activities FFT will undertake include:

- Organization of visual aids, literature, slide presentations, PowerPoint presentations, and other materials for lectures and seminars;
- Plan and schedule lectures, seminars, and workshops
- Travel to target regions and conduct workshops, seminars, or lectures depending on the audience.

The main themes / topics emphasized during these events will depend on the specific audience. In general, however, FFT will emphasize the following topics:

- the principles of FM-RIL and why its adoption is essential in Amazonia
- the importance of using safety equipment
- costs and productivity of using FM-RIL relative to conventional practices highlighting results of FFT's cost-benefit study
- mechanisms for adopting FM-RIL in the Amazon and constraining factors in the region
- alternative (traditional low-impact) extraction systems for forest communities and/or small producers
- forestry laws, policies and regulations and management implications
- disincentives to management and efforts to remove them
- market access and certification and their importance in the region

The number and location of particular events will be based on demand and logistical considerations. At present, FFT estimates that it can conduct 8 events per year attended by 200 people in total. Details will be elucidated in the early rainy season (2004 & 2005) during the project.

2.6 Economic aspects

At present, there are few viable sustainable development options for the Amazon Basin that do not affect or depend on forest resources. Sustainable forestry is considered one of the best if not the best development alternative for the region. Preliminary observations indicate that FM-RIL – a key step toward sustainable forestry – is not only positive from a forestry and environmental perspective but also from an economic one.

Without considering externalities, the basis of this hypothesis is that FM-RIL requires more people throughout the year than does conventional logging. Increased job stability is a key factor in the Amazon where people are flocking to already over-crowded cities because of the lack of stable work in rural areas. FFT and partners also believe that FM-RIL can provide much more employment than other traditional sectors such as cattle ranching or mining. Finally, when companies adopt FM-RIL they also commit to the idea of long-term management and long-term investments in their employees. The result of this commitment is greater opportunity for

professional development of employees regardless of the position at which they start (see additional details below under *Social Aspects*).

The direct effect of the proposed project on the economy is expected to be immediate and substantial based on previous experience. Considering the critical need for qualified and trained practitioners for producers to comply with new federal laws, it is reasonable to anticipate that all participants in the proposed courses will immediately be hired and start practicing what they learned. The validity of this expectation is based on FFT's experience during the past four years. All FFT trained technicians – who are quickly becoming the workhorses of the forest sector – found employment in the forest sector upon graduation from one of the four Amazon Forest Technical Schools, which require FFT field training as part of their curricula. FFT anticipates the same to hold true for all technicians graduating in the next two years.

Finally, it is important to note that the proposed project will have a positive impact on the region's economy because it will promote and create enabling conditions for more efficient use of the forest resource. Numerous studies have found that FM-RIL practices reduce residual stand damage¹², which in turn helps mitigate the increased vulnerability to fire¹³ associated with logging activities. This benefit is important because the region's economy hinges on the maintenance of the forest's productivity. By reducing wood waste (e.g., through greater recovery of commercial volume than in conventional logging), FM-RIL also provides financial benefits¹⁴ to landowners and communities and thus to the local and regional economy.

2.7 Environmental aspects

This project aims to promote sustainable forest management through the development of human resources. As such, it will involve forest harvesting and other silvicultural operations that will affect forest stands in which these activities are conducted. Nevertheless, a central goal of sustainable forestry – which the project is promoting, demonstrating, and teaching – is to obtain non-declining timber volumes without compromising forest quality or composition over time. Although any harvest will alter the forest to some extent, it is clear that minimizing physical impacts is an important first step in the goal of sustainable production. Reduced-impact logging provides standards for mitigating the FM activities that cause the greatest ecological impact. Specifically, as mentioned above, FM-RIL methods reduce soil and canopy damage, protect future crop trees, and decrease waste by at least 50 percent compared to conventional practices. As such, RIL is considered a necessary step toward achieving sustainable forest management.

The training conducted during this project will be integrated into actual forest management and forest harvesting activities. Trees will be cut and heavy equipment used on at least 800 ha of forest will be harvested and roads will affect additional areas. In all operations and in all training activities, the FFT field crew will adhere to environmental protection regulations, which are in fact at the core of the FM-RIL methods. In addition, the project will strive to incorporate lessons

¹² For example, see Holmes, T.P., G.M. Blate, J.C. Zweede, R. Pereira, Jr., P. Barreto, and F. Boltz. 2002. *Financial and ecological indicators of reduced-impact logging performance in the Eastern Amazon*. *Forest Ecology and Management* 163: 93-110.

¹³ See Holdsworth, A. & C. Uhl. 1997. *Fire in Amazonian selectively logged rainforests and the potential for fire reduction*. *Ecological Applications* 7: 713-725.

¹⁴ See Holmes et al. 2002.

from its own applied research and from related research projects on environmental impacts of FM-RIL practices. Finally, it is worth noting that this project is expected to have a positive environmental impact because it should multiply the number and area of forests being managed with RIL practices compared with conventional logging practices.

2.8 Social aspects

The overall social impact of the project in the region is expected to be positive for many of the reasons mentioned above under *Economic Aspects*. The basis for this statement is that adoption of FM-RIL practices changes the cost structure for producers in a socially beneficial way. Compared to conventional logging, FM-RIL increases the proportion of total costs (per cubic meter of timber harvested) spent on salaries and additional labor by about 31% (see footnote 10). In conventional logging, that 31% is spent instead on equipment use and maintenance and fuel costs due to inefficiencies. In addition, FM-RIL operations use 64% more workers, many of whom possess special skills and training, than conventional logging operations. The dollars spent on wages stay in the Amazon region, which helps fuel the local and regional economies. In conventional operations in contrast, the beneficiaries of producer expenses for equipment and fuel are in urban centers far from the Amazon or overseas.

Another socially beneficial aspect of FM-RIL compared to conventional logging and most other land uses is that FM-RIL requires a much larger range of skills. In conventional logging, a person is a laborer, a machine operator or a crew boss; seldom is there a defined career path that allows individuals to improve their status through experience and training. In FM-RIL in contrast, various career plans are feasible even for an unskilled laborer. For example, a person can grow from a field laborer, through the various ranks of qualified labor and then to equipment operator. By training a wide range of people with varying skills and from all sectors, the project will create enabling conditions to allow greater adoption of FM-RIL in the region.

Aside from the obvious benefits to rural workers, an important consequence of the career paths and various skills associated with FM-RIL is that people trained in forestry will remain in rural areas rather than moving to cities where they might remain poor and jobless. This potential social benefit of FM-RIL is noteworthy because most cities in Amazon Basin countries are already overpopulated and have limited capacity to absorb large influxes of rural laborers.

In addition to potential careers, FM-RIL significantly upgrades attention to safety and health considerations, which is of critical importance if workers are to remain in rural settings. In every one of the proposed courses and extension activities, FFT trainers emphasize worker health and safety; in the hands-on courses, worker health and safety are a key part of the curriculum.

2.9 Risks

FFT believes that there are few risks associated with this project because of the experience gained from conducting 7 years of training in the Brazilian Amazon. Three potential risks that would affect the project are highly unlikely given recent trends. These risks derive from the possibility that the following assumptions become invalid:

- Cooperation continues between the GoB and forest stakeholders to increase adoption of good forest management practices;

- Continued commitment among stakeholders to adopt FM-RIL and continued demand for training
- CIKEL, the owner of the site where FFT will conduct the training courses, remains a willing partner

FFT considers these valid assumptions for several reasons. First, considering the large and increasing demand for FFT training (see Annex F) – including the recent request by all four Amazon Technical Schools for training in 2003 – the second assumption is easily validated by the numerous requests FFT has already received. Second, CIKEL has been a key partner for the past 7 years and recently allocated at least 2,000 ha to FFT to continue its training program. FFT has a letter of cooperation from CIKEL to demonstrate its commitment (see Annex G). Finally, the recent establishment of the PNF and other legal and policy changes indicate that the GoB is increasing in its commitment to FM in the Amazon.

Despite the points above, FFT has identified two risks – both financial – that may affect the project if they are realized. The first involves the fluctuating and uncertain currency exchange between the dollar and Brazilian real (R). The exchange rate has hovered around 3.7 Rs to the dollar in recent months. To be conservative, FFT developed a budget based on the possibility that the exchange rate would drop and the dollar become less favourable. If, however, the exchange rate drops (or is set by the new government) below the rate used in budget calculations (3.4 to 1), the budget may be insufficient to meet actual project costs. The only practical way to guard against this risk is to include a line for contingency. No such line item was included, however, to keep the overall budget as low as possible.

The second risk involves financial commitments necessary to sustain FFT and its training staff until the project begins in June 2003. In 2002, USAID and FCO supported FFT's rainy season extension activities. USAID, and recently ProManejo, are supporting FFT's current training activities. FFT submitted a proposal to PNF for additional training support; at present, funds are pending approval by PNF. If the PNF funds are not approved, however, it will have to search hard for other means to remain intact until it receives financing from ITTO in 2003. FFT remains confident that PNF will approve its proposal.

3. Outputs

Specific Objective 1

- 1.1 Course schedules for 2003 and 2004 developed in response to demand for training
- 1.2 Two 1,000 ha forest areas prepared for training courses (including 400 ha / year for harvesting and 600 ha / year for demonstration) during the project
- 1.3 Total of 410 people from all levels and all forest related sectors trained in the application of FM-RIL principles and practices in 38 on- and off-site courses during project
- 1.4 Teaching and technical skills of the 13 FFT trainers improved and training repertoire expanded

- 1.5 FM-RIL operational manual, flip charts, and related documents refined or developed and used in training courses
- 1.6 Trainer lesson plans, lectures, and techniques compiled and published as FM-RIL trainer's manual
- 1.7 At least 800 ha logged with FM-RIL methods during training courses
- 1.8 Develop and test a system for monitoring the impact of the training courses on FM-RIL – including the various levels of trainees – by the end of the project period.

Specific Objective 2

- 2.1 Annual schedules (with locations) of extension activities for 2004 and 2005 elaborated
- 2.2 Extension materials, dependent on the particular event, such as power point presentations, technical papers, posters, lectures, and folders updated or developed and used in events
- 2.3 Principles and benefits of FM-RIL explained to at least 400 participants in 16 extension events (seminars, workshops and lectures) during project

4. Activities

Output 1.1 *Annual course schedules developed*

- 1.1.1 Schedule and promote courses
- 1.1.2 Screen applications; select course participants
- 1.1.3 Arrange travel, lodging, etc. of participants, trainers & consultants
- 1.1.4 Arrange for training consultants (scheduling, objectives, etc.)

Output 1.2 *Forest areas prepared for courses*

- 1.2.1 Training camp prepared and upgraded
- 1.2.2 Training site for harvest prepared
- 1.2.3 Training demonstration site prepared
- 1.2.4 Access infrastructure (roads, bridges, culverts) maintained and prepared
- 1.2.5 Harvest plan submitted and approved by IBAMA – not in budget

Output 1.3 *410 persons trained in on- and off-site courses*

- 1.3.1 Conduct training courses
- 1.3.2 Review evaluation forms and course diplomas
- 1.3.3 Conduct evaluations and competency tests
- 1.3.4 Process, analyze & synthesize evaluations for Final Report

Output 1.4 *FFT trainer skills improved / training repertoire expanded*

- 1.4.1 Plan and schedule FFT-trainer development workshops and courses
- 1.4.2 FFT trainers attend technical workshops and courses

1.4.3 FFT trainers attend courses to increase their teaching skills

Output 1.5 *FM-RIL manuals and other training materials refined / developed*

- 1.5.1 Peer review of operational manuals and other training materials
- 1.5.2 Revise and tailor manuals and other training materials for each type of course
- 1.5.3 Print all training materials
- 1.5.4 Distribute manuals and other materials to course participants

Output 1.6 *FM-RIL Trainer's manual published*

- 1.6.1 Elaboration of lesson plans, lectures, and key techniques used by trainers during each course
- 1.6.2 Peer review and compilation of lesson plans etc. for each training course into a trainer's manual
- 1.6.3 Publication of trainer's manual

Output 1.7 *800 ha logged with FM-RIL methods*

- 1.7.1 Acquire & transport logging equipment for RIL training harvest
- 1.7.2 Acquire & prepare materials & supplies for RIL training harvest
- 1.7.3 Conduct pre-harvest operations
- 1.7.4 Conduct harvest operations

Output 1.8 *System for monitoring impact of training courses developed & tested*

- 1.8.1 Prepare and disseminate a TOR for a consultant
- 1.8.2 Contract consultant
- 1.8.3 Develop monitoring system and its indicators
- 1.8.4 Conduct field testing of system
- 1.8.5 Consolidate monitoring system for use

Output 2.1 *Annual extension work schedules elaborated*

- 2.1.1 Scheduling of extension program
- 2.1.2 Arrange travel or logistics for extension program

Output 2.2 *Extension materials updated / developed for seminars, workshops & lectures*

- 2.2.1 Revise / update existing graphics, presentations, slide shows, and lectures for use in extension events
- 2.2.2 Distribute appropriate material to the participants during the extension events

Output 2.3 *FM-RIL benefits explained to 400 participants in 16 events*

- 2.3.1 Conduct extension events (seminars, workshops, & lectures)
- 2.3.2 Conduct evaluations of events
- 2.3.3 Process, analyze & synthesize evaluations for Final Report

5. Logical Framework Worksheets

PROJECT ELEMENTS	INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
<p><u>DEVELOPMENT OBJECTIVE</u> To promote the use of sustainable forest management practices by timber producers while increasing the socioeconomic benefits of forest management activities in the Brazilian Amazon</p>	Increased number of companies and forest-based communities using FM-RIL methods	Company reports; independent audits; ITTO monitoring	National policies do not deter use of FM-RIL practices or preclude developing human resources Continued cooperation between government and forest stakeholders to accelerate adoption of FM-RIL
	Increased percentage and area (hectares) of production forests harvested with FM-RIL vs. conventional practices	Number of companies using FM-RIL; number of hectares harvested / being managed with FM-RIL	Means exist to verify indicator in the field
	Increased number of FM-RIL elements (e.g., vine cutting, 100% inventory, etc.) being implemented by various types of producers	Company reports; independent field assessments	FM-RIL practices can be adapted for all types of producers
	Increased proportion of logging sourced from certified sites, and those progressing to certification	Number of certified companies & hectares Brazilian government (GoB) and independent monitoring reports; production and trade statistics; monitoring of certification approvals and expressions of interest	Certification is a valid indicator of progress toward sustainable forest management
	Increased (and more stable) employment and benefits for rural populations as compared to conventional logging practices	GoB statistics on employees in forest sector; uptake of trained personnel; feedback interviews from employers	GoB statistics accurate and up to date at time of reporting Continued commitment by forest stakeholders to adopt FM-RIL

PROJECT ELEMENTS	INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
<u>SPECIFIC OBJECTIVES</u> 1) Increase adoption of FM-RIL practices by timber producers in Amazonian production forests through practical training	410 forestry practitioners trained in the application of FM-RIL; training program (38 on- and off-site courses) completed	Follow-up surveys of course participants; country and sectoral reports; FFT courses offered and training activities conducted by staff; course evaluations	Performance in training courses is an indicator of ability to apply principles and lessons in other contexts; Clients are willing and able to sponsor training candidates and develop dissemination plans.
	At least 90% of students from Amazon Technical Schools who participate in courses employed in FM within 1 year of graduation	Technical School records; government statistics; follow-up with students upon graduation	Continued commitment by forest stakeholders to adopt FM-RIL
	Annual demand for FM-RIL training sustained at more than 500 people during and after project	FFT records of training requests	Continued commitment by forest stakeholders to adopt FM-RIL and invest in training
2) De-mystify the concept and promote the practice of FM-RIL amongst stakeholders in the Brazilian Amazon through extension work	Progressively more comprehensive training program developed in response to demand	Demand for FFT trained personnel from forest sector	Exposure to information and ideas during a single event is sufficient to stimulate interest in FM-RIL and desire for training
	Annual demand for FM-RIL training sustained at more than 500 people during and after project	FFT records of Extension work	
	Demand for extension events increased during project from 8 events per year to 10 events per year	FFT records of demand for extension activities	
<u>OUTPUT 1.1</u> Course schedules for 2003 and 2004 developed in response to demand for training	Detailed course content planned (including subject hours) Course list & schedule developed	FFT reports, ITTO audits	Landowner continues to allow on-site training
	No of requests for training by type	FFT record of training requests	

PROJECT ELEMENTS	INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
	of course		
	Number of requests for training by sector and course at least as high as in 2002	FFT records of demand for training activities	
OUTPUT 1.2 Two 1,000 ha forest areas prepared for training courses (including 400 ha / year for harvesting and 600 ha / year for demonstration) during the project	Field training camp prepared (and upgraded if necessary) in time for courses. 400 ha prepared for harvest prior and during courses; 600 ha of demonstration areas prepared for courses (i.e., roads & sites cleaned and maintained)	Prior inspection of training site and camp confirms everything is in place Km of roads and structures maintained (bridges & culverts); number of demonstration areas cleaned and prepared.	Donor commitments and international support delivered on time to fulfill course schedule
OUTPUT 1.3 Total of 410 people from all levels and all forest related sectors trained in the application of FM-RIL principles and practices in on- and off-site courses during project	Number of actual participants for planned number of courses; relationship of on-site and off-site training and their relationship to each sector and local of origin.	Course evaluations by trainers and participants; FFT progress reports. Number of training certificates issued.	FFT management and training crew will remain complete; GoB and industry partners will maintain interest
	Increase by 410 the number of forestry practitioners and trainers capable of implementing, demonstrating and teaching FM-RIL methods.	Broader adoption of FM-RIL techniques in industry and in forest based communities Responses and uptake of trainees from sponsors / employers	
	Participants selected from full range of levels and sectors	Records of course participants and selection process	
	Participants completing courses fulfill competency standards	Competency based final evaluations consistent with final exam and trainer evaluations. Follow-up of past trainees	Appropriate exam or trainee evaluations are developed and fairly administered
OUTPUT 1.4 Teaching and technical skills of 13 FFT trainers improved and training	At least 2 courses provided for trainers;	Course reports by trainer-teacher	

PROJECT ELEMENTS	INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
repertoire expanded	13 trainers trained; Types of training offered (Technical – Teaching)	Certificates obtained by trainers Tuition paid by FFT	
OUTPUT 1.5 FM-RIL operational manual, flip charts, and related documents refined or developed and used in courses	Existence of revised manuals and other training materials for use in courses (e.g., guidelines, procedures, etc.)	ITTO audits and FFT reports; participant evaluations; independent checks on courses in progress	Adequate writing and graphics services can be obtained; adequate funding for printing
OUTPUT 1.6 Trainer lesson plans, lectures, and techniques compiled and published as FM-RIL trainer's manual	Existence of one (1) FM-RIL trainer's manual	ITTO audits and FFT reports;	A trainer's manual based on FFT's experiences can be usefully adopted by similar projects elsewhere and can speed the dissemination of good forest management
OUTPUT 1.7 At least 800 ha logged with FM-RIL methods during training courses	Inventory and harvest maps, harvest plans completed, and area harvested using RIL practices for each year of project. Harvesting plan (per block – UT) approved by IBAMA.	Landowner records; ITTO audits; FFT reports Official post-harvest reports from CIKEL to IBAMA.	Landowner interest continues
OUTPUT 1.8 Develop and test a system for monitoring the impact of the training courses on FM-RIL – including the various levels of trainees – by the end of the project	One (1) system to monitor the impact of training on FM-RIL developed and tested	ITTO audits; FFT reports	Valid and useful indicators of impact can be developed and feasibly verified
OUTPUT 2.1 Annual schedules (with locations) of extension activities for 2004 and 2005 elaborated	List & schedule of extension events developed by year	FFT reports, ITTO audits	

PROJECT ELEMENTS	INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
OUTPUT 2.2 Extension materials, dependent on the particular event, such as power point presentations, technical papers, posters, lectures, and folders updated or developed and used in events	Didactic materials (presentations, flip charts, manuals, etc.) completed in time for events	Number and type of presentation and lecture materials developed and / or upgraded	
OUTPUT 2.3 Principles and benefits of FM-RIL explained to 400 participants in 16 extension events (seminars, workshops and lectures) during project	Increased demand for FM-RIL training during and after project Number of participants and events realized.	Records of participants in extension activities; evaluations Records of requests for training and other FFT services	Requests for training and elaboration of new forest management plans are valid indicators of increased understanding and awareness of benefits of FM-RIL

ACTIVITIES	INPUTS	INPUT CATEGORIES
1.1.1 Schedule and promote courses	FFT Director and staff, TFF Director; Meetings; Procurement of materials	Project personnel: FFT staff Consumable items: office, computers, printer, & desktop publishing software; leaflets with course descriptions, schedules and applications; office supplies; letterhead & envelopes; postage
1.1.2 Screen applications; select course participants	FFT Director, Administrator Technical staff; course coordinator	Project personnel: FFT staff Consumable items: office, computers, phone, fax, printer, office supplies, postage
1.1.3 Arrange travel, lodging, etc. of participants, trainers & consultants	FFT Director, Administrator and assistants	Project personnel: FFT staff & consultants Duty travel: for above as well as trainees Consumable items: office, phone, fax, computers, fuel
1.1.4 Arrange for training consultants (scheduling, objectives, etc.)	FFT Director, Administrator, and assistants	See 1.3

ACTIVITIES	INPUTS	INPUT CATEGORIES
1.2.1 Prepare and upgrade training camp	FFT Director and staff	Project personnel: FFT staff Duty travel: for trainers, laborers Capital items: 4WD vehicles Consumable items: safety equipment, first aid, technical material, fuel, food and camp supplies
1.2.2 Prepare training site for harvest	FFT Director and staff, consultant, existing maps	Project personnel: FFT staff & consultants Duty travel: for trainers, laborers and consultant Capital items: 4WD vehicles, heavy machines Consumable items: safety equipment, first aid, technical material, fuel and food
1.2.3 Prepare training demonstration site	FFT Director and staff, consultant, existing maps	Project personnel: FFT staff & consultants Duty travel: for trainers, laborers and consultant Capital items: 4WD vehicles, heavy machines Consumable items: safety equipments, first aid, technical material, fuel and food
1.2.4 Prepare and maintain access infrastructure (roads, bridges, culverts)	FFT Director and staff, consultant, existing maps	Project personnel: FFT staff & consultants Duty travel: for trainers, laborers and consultant Capital items: 4WD vehicles, heavy machines Consumable items: safety equipment, first aid, technical material, fuel and food
1.2.5 Submit harvest plan for IBAMA approval	FFT Director and senior staff; CIKEL foresters; IBAMA staff	Project personnel: Consumable items: computers, printers, office supplies, photocopies
1.3.1 Conduct training courses	FFT Director & staff; industrial partners; consultants; (see outputs 1.2, 1.3, & 1.4)	Project personnel: FFT staff, consultants, laborers Capital items: training site, 4WD vehicles, logging equipment (tractor, skidder, loader, chainsaws) Consumable items: office, training materials, safety equipment, technical and camp supplies, first aid, fuel, food Duty travel: for trainers, trainees, laborers, & consultants
1.3.2 Review evaluation forms and course diplomas	FFT Director & staff; consultants	Project personnel: FFT staff & consultants Consumable items: office, computers, printer, phone, fax, office supplies, photocopies

ACTIVITIES	INPUTS	INPUT CATEGORIES
1.3.3 Conduct evaluations and competency tests	FFT Trainers; trainees; consultants	Project personnel: FFT staff & consultants Consumable items: evaluation forms
1.3.4 Process, analyze & synthesize evaluations for Final Report	FFT staff, sub-contractor	Project personnel: FFT staff, sub-contracts Consumable items: office, computers, printer, office supplies
1.4.1 Plan and schedule FFT-trainer development workshops and courses	FFT Director and staff, administrative	Project personnel: FFT staff, administrative personnel Consumable items: office, computers, printer, phone, fax, office supplies
1.4.2 FFT trainers attend technical workshops and courses	FFT staff	Project personnel: FFT staff Capital items: vehicles
1.4.3 FFT trainers attend courses to increase their teaching skills	FFT staff	Project personnel: FFT staff Capital items: vehicles
1.5.1 Peer review of operational manuals and other training materials	FFT Director and staff; consultants; training and design specialists	Project personnel: FFT staff & consultants; training and design specialists Consumable items: office, computers, printer, phone, fax, office supplies
1.5.2 Revise and tailor manuals and other training materials for each type of course	FFT Director & staff; consultants	Project personnel: FFT staff & consultants; training and design specialists Consumable items: office, computers, printer, phone, fax, office supplies
1.5.3 Print all training materials	FFT Director & staff, sub-contractor	Project personnel: FFT staff, training and design specialists Consumable items: office, computers, printer, phone, fax, office supplies
1.5.4 Distribute manuals and other materials to course participants	FFT Director & staff; sub-contractor	Project personnel: FFT staff Sub-contracts: printing service Consumable items: office, computers, printer, phone, fax, office supplies
1.6.1 Elaboration of lesson plans, lectures, and key techniques used by trainers during each course	FFT Director & staff,	Project personnel: FFT staff Consumable items: office, computers, printer, phone, fax, office supplies

ACTIVITIES	INPUTS	INPUT CATEGORIES
1.6.2 Peer review and compilation of lesson plans etc. for each training course into a trainer's manual	FFT Director & staff, consultant	Project personnel: FFT staff, consultant Consumable items: office, computers, printer, phone, fax, office supplies
1.6.3 Publication of trainer's manual	FFT Director & staff, sub-contractor	Project personnel: FFT staff Sub-contracts: printing service, translation service Consumable items: office, computers, printer, phone, fax, office supplies
1.7.1 Acquire & transport logging equipment for RIL training harvest	FFT Director, Administrator, & assistants; industrial partners	Project personnel: FFT staff Capital items: vehicles Consumable items: office, computers, printer, phone, fax
1.7.2 Acquire & prepare materials & supplies for RIL training harvest	FFT Director, Administrator & assistants	Project personnel: FFT staff Consumable items: office, computers, printer, phone, fax, technical material, course material
1.7.3 Conduct pre-harvest operations	FFT Director & staff; trainees; industrial partners	See 1.3.1
1.7.4 Conduct harvest operations	FFT Director & staff; trainees; industrial partners	See 1.3.1
1.8.1 Prepare and disseminate a TOR for a consultant	FFT Director & staff, technical partners	Project personnel: FFT staff Consumable items: office, computers, printer, phone, fax, technical material, course material
1.8.2 Contract consultant	FFT Director, administrative personnel	Project personnel: FFT staff Consumable items: office, computers, printer, phone, fax, technical material, course material
1.8.3 Develop monitoring system and its indicators.	FFT Director & staff, consultant.	Project personnel: FFT staff, consultant Duty travel: transport costs Capital items: vehicles Consumable items: office, computers, printer, phone, fax, technical material, course material
1.8.4 Conduct field testing of system	FFT Director & staff, consultant.	Project personnel: FFT staff, consultant Duty travel: transport costs Capital items: vehicles Consumable items: office, computers, printer, phone, fax, technical material, course material

ACTIVITIES	INPUTS	INPUT CATEGORIES
1.8.5 Consolidate monitoring system for use	FFT Director & staff, consultant.	Project personnel: FFT staff, consultant Duty travel: transport costs Capital items: vehicles Consumable items: office, computers, printer, phone, fax, technical material, course material
2.1.1 Scheduling of extension program	FFT Director & staff; Meetings	Project personnel: FFT staff Consumable items: office, computers, printer,; leaflets with course descriptions, schedules and applications; office supplies; letterhead & envelopes; postage
2.1.2 Arrange travel or logistics for extension program	FFT Director, Administrator and assistants	Project personnel: FFT staff & consultants Duty travel: transport costs Consumable items: office, phone, fax, computers, fuel
2.2.1 Revise / update existing graphics, presentations, slide shows, and lectures for use in extension events	FFT Director, staff	Project personnel: FFT staff , technical designer Consumable items: office, phone, fax, computers,
2.2.2 Distribute appropriate material to the participants during the extension events	FFT Director & staff	Project personnel: FFT staff Consumable items: office, computers, printer, phone, fax, office supplies
2.3.1 Conduct extension events (seminars, workshops, & lectures)	FFT trainers & target audience	Project personnel: FFT staff & consultants Duty travel: transport costs, travel & lodging Capital items: vehicle Consumable items: office, phone, fax, computers, fuel
2.3.2 Conduct evaluations of events	FFT Director, staff	Project personnel: FFT staff Consumable items: office, phone, fax, computers,
2.3.3 Process, analyze & synthesize evaluations for Final Report	FFT staff, sub-contractor	Project personnel: FFT staff Sub-contracts: translation service Consumable items: office, computers, printer, office supplies

OUTPUTS / ACTIVITIES	Responsible	2003					2004					2005													
		Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May
Output 1.3 Total of 410 people from all levels and all forest related sectors trained in the application of FM-RIL principles and practices in on- and off-site courses during project																									
1.3.1 Conduct training courses	FFT/TFF																								
1.3.2 Review evaluation forms and course diplomas	FFT/TFF																								
1.3.3 Conduct evaluations and competency tests	FFT/TFF																								
1.3.4 Process, analyze & synthesize evaluations for Final Report	FFT/TFF																								
Output 1.4 Teaching and technical skills of the 13 FFT trainers improved and training repertoire expanded																									
1.4.1 Plan and schedule FFT-trainer development workshops and courses	FFT/TFF																								
1.4.2 FFT trainers attend technical workshops and courses	FFT/TFF																								
1.4.3 FFT trainers attend courses to increase their teaching skills	FFT/TFF																								
Output 1.5 FM-RIL operational manual, flip charts, and related documents refined or developed and used in training courses																									
1.5.1 Peer review of training materials	FFT/TFF - Consultants																								

OUTPUTS / ACTIVITIES	Responsible	2003					2004					2005														
		Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	
1.5.2 Revise all training materials	FFT/TFF - Consultants																									
1.5.3 Print all training materials	FFT/TFF																									
1.5.4 Distribute manuals and other training materials to course participants	FFT/TFF																									
Output 1.6 Trainer lesson plans compiled and published as FM-RIL trainer's manual																										
1.6.1 Elaboration of lesson plans and lectures to be used by trainers in FFT courses	FFT/TFF																									
1.6.2 Peer review and compilation of lesson plans for each training course into a trainer's manual.	FFT/TFF - Consultants																									
1.6.3 Publication of trainers manual	FFT/TFF																									
Output 1.7 At least 800 ha logged with FM-RIL methods during training courses																										
1.7.1 Acquire & transport logging equipment for RIL training harvest	FFT/TFF																									
1.7.2 Acquire & prepare materials & supplies for RIL training harvest	FFT/TFF																									
1.7.3 Conduct pre-harvest operations	FFT/TFF																									
1.7.4 Conduct harvest operations	FFT/TFF																									

OUTPUTS / ACTIVITIES	Responsible	2003					2004					2005													
		Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May
Output 1.8 Develop and test a system for monitoring the impact of the training courses on FM-RIL – including the various levels of trainees – by the end of the project period.																									
1.8.1 Prepare and disseminate a TOR for a consultant	FFT/TFF					■																			
1.8.2 Contract consultant	FFT/TFF - Consultant									■															
1.8.3 Develop monitoring system and its indicators.	FFT/TFF - Consultant										■	■	■												
1.8.4 Conduct field testing of system	FFT/TFF - Consultant														■	■	■	■							
1.8.5 Consolidate monitoring system for use	FFT/TFF - Consultant																			■	■	■	■		
Output 2.1 Annual schedules (with locations) of extension activities for 2004 and 2005 elaborated																									
2.1.1 Scheduling of extension program	FFT/TFF										■	■											■	■	
2.1.2 Arrange travel or logistics for extension program	FFT/TFF											■	■	■									■	■	■
Output 2.2 Extension materials, dependent on the particular event, such as power point presentations, technical papers, posters, lectures, and folders updated or developed and used in events																									
2.2.1 Revise and update graphics, presentations, slide	FFT/TFF											■	■										■	■	

OUTPUTS / ACTIVITIES	Responsible	2003												2004												2005				
		Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May					
shows, & lectures									■	■	■									■	■	■	■	■						
2.2.2 Distribute appropriate material to the participants during the extension events	FFT/TFF										■	■	■	■								■	■	■						
Output 2.3 Principles and benefits of FM-RIL explained to at least 400 participants in 16 extension events (seminars, workshops and lectures) during project																														
2.3.1 Conduct extension events (seminars, workshops, & lectures)	FFT/TFF											■	■	■								■	■	■						
2.3.2 Conduct extension events evaluations.	FFT/TFF											■	■	■								■	■	■						
2.3.3 Process, analyze & synthesize evaluations for Final Report	FFT/TFF						■							■										■						
Steering committee meetings	Steering committee							■				■											■	■						

7. Budgets

7.1 Overall Project Budget by Activity (US\$)

OUTPUTS, ACTIVITIES + Non-Activity Based Expenses	10. Project Personnel	20. Sub-contracts	30. Duty Travel	40. Capital Items	50. Consumable Items	60. Miscellaneous	Quarter	GRAND TOTAL	ITTO portion	FFT portion
Output 1.1 Course schedules for 2003 and 2004 developed in response to demand for training										
1.1.1 Schedule and promote courses	31,000				2,500		Q1, 2 & 4, Y1; Q1 & 2, Y2	33,500	28,000	5,500
1.1.2 Screen applications; select course participants	12,000				2,000			14,000	9,000	5,000
1.1.3 Arrange travel, lodging, etc. of participants, trainers & consultants	7,500							7,500	7,500	-
1.1.4 Arrange for training consultants (scheduling, objectives, etc.)	6,500							6,500	6,500	-
Sub-total 1.1	57,000	-	-	-	4,500	-		61,500	51,000	10,500
Output 1.2 Two 1,000 ha forest areas prepared for training courses (including 400 ha / year for harvesting and 600 ha / year for demonstration) during the project										
1.2.1 Prepare and upgrade training camp	9,000				15,000		Q1&4, Y1; Q1, Y2	24,000	18,000	6,000
1.2.2 Prepare training site for harvest	7,000				5,000			12,000	5,000	7,000
1.2.3 Prepare training demonstration site	5,000				4,000			9,000	4,000	5,000

OUTPUTS, ACTIVITIES + Non-Activity Based Expenses	10. Project Personnel	20. Sub-contracts	30. Duty Travel	40. Capital Items	50. Consumable Items	60. Miscellaneous	Quarter	GRAND TOTAL	ITTO portion	FFT portion
1.2.4 Prepare and maintain access infrastructure (roads, bridges, culverts)	16,000				7,440			23,440	4,000	19,440
	37,000	-	-	4,500	31,440	-		72,940	31,000	41,940
Output 1.3 Total of 410 people from all levels and all forest related sectors trained in the application of FM-RIL principles and practices in on- and off-site courses during project										
1.3.1 Conduct training courses	220,000		82,000	41,000	86,000	20,200	Q1&2, Y1&2	449,200	271,000	178,200
1.3.2 Review evaluation forms and course diplomas	14,000							14,000	7,000	7,000
1.3.3 Conduct evaluations and competency tests	6,500							6,500	4,500	2,000
1.3.4 Process, analyze & synthesize evaluations for Final Report	6,500	2,000					Q4, Y1&2	8,500	4,500	4,000
Sub-total 1.3	247,000	2,000	82,000	41,000	86,000	20,200		478,200	287,000	191,200
Output 1.4 Teaching and technical skills of the 13 FFT trainers improved and training repertoire expanded										
1.4.1 Plan and schedule FFT trainers development workshops and courses	4,500						Q3&4, Y1&2	4,500	2,000	2,500
1.4.2 FFT trainers attend technical workshops and courses	3,500		1,500					5,000	2,000	3,000

OUTPUTS, ACTIVITIES + Non-Activity Based Expenses	10. Project Personnel	20. Sub- contracts	30. Duty Travel	40. Capital Items	50. Consum- able Items	60. Miscella- neous	Quarter	GRAND TOTAL	ITTO portion	FFT portion
1.4.3 FFT trainers attend courses to increase their teaching skills	3,500		1,500					5,000	2,000	3,000
Sub-total 1.4	11,500	-	3,000	-	-	-		14,500	6,000	8,500
Output 1.5 FM-RIL operational manual, flip charts, and related documents refined or developed and used in training courses										
1.5.1 Peer review of training materials	1,500		1,000				Q3 & 4, Y1	2,500	1,500	1,000
1.5.2 Revise all training materials	2,500		1,000		2,500			6,000	3,500	2,500
1.5.3 Print all training materials	1,000	11,000			9,000		Q1&2, Y1&2	21,000	15,000	6,000
1.5.4 Distribute manual and other training materials to course participants	1,000		1,000		1,000			3,000	2,000	1,000
Sub-total 1.5	6,000	11,000	3,000	-	12,500	-		32,500	22,000	10,500
Output 1.6 Trainer lesson plans compiled and published as FM-RIL trainer's manual										
1.6.1 Elaboration of lessons plans and lectures to be used by trainers in FFT courses	2,500				1,500		Q3 & 4, Y1	4,000	2,000	2,000
1.6.2 Peer review and compilation of lesson plans and lectures for each training course into a trainer's manual	2,500		1,000		1,000		Q4, Y1; Q1-3, Y2	4,500	2,000	2,500
1.6.3 Publication of trainer's manual	1,000	5,000	500		3,000		Q4, Y2	9,500	5,500	4,000
Sub-total 1.6	6,000	5,000	1,500	-	5,500	-		18,000	9,500	8,500

OUTPUTS, ACTIVITIES + Non-Activity Based Expenses	10. Project Personnel	20. Sub- contracts	30. Duty Travel	40. Capital Items	50. Consum- able Items	60. Miscella- neous	Quarter	GRAND TOTAL	ITTO portion	FFT portion
Output 1.7 At least 800 ha logged with FM-RIL methods during training courses										
1.7.1 Acquire & transport logging equipment	2,000				2,500		Q1 & 4, Y1	4,500	3,500	1,000
1.7.2 Acquire & prepare materials & supplies for RIL training harvest	2,000				2,500			4,500	3,500	1,000
1.7.3 Conduct pre-harvest operations	see 1.3		see 1.3		18,000		Q1, 2 & 4, Y1; Q1 & 2, Y2	18,000	-	18,000
1.7.4 Conduct harvest operations	see 1.3		see 1.3		172,776			172,776	-	172,776
Sub-total 1.7	4,000	-	-	-	195,776	-		199,776	7,000	192,776
Output 1.8 Develop and test a system for monitoring the impact of the training courses on FM-RIL – including the various levels of trainees – by the end of the project period.										
1.8.1 Prepare and disseminate a TOR for a consultant	3,000				500		Q2, Y1	3,500	1,000	2,500
1.8.2 Contract a consultant	1,000						Q4, Y1	1,000		1,000
1.8.3 Develop monitoring system and its indicators	6,000		1,500		1,000		Q4, Y1; Q1, Y2	8,500	2,500	6,000
1.8.4 Conduct field testing of system	6,000		5,500		3,500		Q1-3, Y2	15,000	4,000	11,000
1.8.5 Consolidate monitoring system for use	6,000		1,000		500		Q3-4, Y2	7,500	2,000	5,500
Sub-total 1.8	22,000	-	8,000	-	5,500	-		35,500	9,500	26,000
Output 2.1 Annual schedules (with locations) of extension activities for 2004 and 2005										

OUTPUTS, ACTIVITIES + Non-Activity Based Expenses elaborated	10. Project Personnel	20. Sub- contracts	30. Duty Travel	40. Capital Items	50. Consum- able Items	60. Miscella- neous	Quarter	GRAND TOTAL	ITTO portion	FFT portion
2.1.1 Scheduling of extension programs	19,008				1,000		Q3, Y1 & 2	20,008	11,208	8,800
2.1.2 Arrange travel or logistics for extension program	7,000		1,000				Q4, Y1 & 2	8,000	2,500	5,500
Sub-total 2.1	26,008	-	1,000	-	1,000	-		28,008	13,708	14,300
Output 2.2 Extension materials, dependent on the particular event, such as power point presentations, technical papers, posters, lectures, and folders updated or developed and used in events										
2.2.1 Revise/update existing graphics, presentation, slide show and lectures for use in extension events	22,000				8,500		Q3, Y1 & 2	30,500	5,000	25,500
2.2.2 Distribute appropriate material to the participants during extension events	1,500						Q3 & 4, Y1 & 2	1,500		1,500
Sub-total 2.2	23,500	-	-	-	8,500	-		32,000	5,000	27,000
Output 2.3 Principles and benefits of FM-RIL explained to at least 450 participants in 16 extension events (seminars, workshops and lectures) during project										
2.3.1 Conduct extension events (seminars, workshops, & lectures)	210,200		32,000		7,500		Q3 & 4, Y1 & 2	249,700	52,000	197,700

OUTPUTS, ACTIVITIES + Non-Activity Based Expenses	10. Project Personnel	20. Sub- contracts	30. Duty Travel	40. Capital Items	50. Consum- able Items	60. Miscella- neous	Quarter	GRAND TOTAL	ITTO portion	FFT portion
2.3.2 Conduct extension event evaluations	9,000		1,000		2,000		Q4, Y1 & 2	12,000	3,000	9,000
2.3.3 Process, analyze & synthesize evaluations for Final Report	10,000		500		1,000		Q4, Y1 & 2	11,500	2,500	9,000
Sub-total 2.3	229,200	-	33,500	-	10,500	-		273,200	57,500	215,700
Total Activities Cost	669,208	18,000	132,000	45,500	361,216	20,200		1,246,124	499,208	746,916
Non-Activity Based Expenses										
(1) Accounting	24,000							24,000	24,000	-
(2) Office equipment & supplies					23,000			23,000	-	23,000
(3) Independent Audit		5,000						5,000	5,000	
(4) Contingency & petty cash						2,500		2,500	2,500	
(5) Short-term project support						13,000		13,000	-	13,000
Sub-total 6	693,208	23,000	132,000	45,500	384,216	35,700		1,313,624	530,708	782,916
Sub-total ITTO	330,608	23,000	61,000	30,000	81,100	5,000			530,708	
Sub-total Ex. Agency	362,600	-	71,000	15,500	303,116	30,700				782,916
TOTAL	693,208	23,000	132,000	45,500	384,216	35,700		1,313,624	530,708	782,916

7.2 *Yearly Project Budget by Source*

Yearly project budget by source – ITTO

Budget Components	Annual Disbursements	Total	Year 1	Year 2
10. Project personnel		330,608	166,402	164,206
20. Sub-contracts		23,000	10,800	12,200
30. Duty travel		61,000	30,500	30,500
40. Capital items		30,000	30,000	-
50. Consumable items		81,100	42,050	39,050
60. Miscellaneous		5,000	2,800	2,200
Sub-total 1		530,708	282,552	248,156
80. ITTO Monitoring, Evaluation & Admin Costs		-	-	-
81. Monitoring & Evaluation		20,000	10,000	10,000
82. Ex-post evaluation		15,000	-	15,000
Sub-total 2		565,708	292,552	273,156
83. Program Support Costs (6% of subtotal 2)		33,942	16,971	16,971
90. Refund of Pre-project Costs		-	-	-
ITTO Total		599,650	309,523	290,127

Yearly project budget by source – Executing Agency (FFT)

Budget Components	Annual Disbursements	Total	Year 1	Year 2
10. Project personnel		362,600	182,502	180,098
20. Sub-contracts		-	-	-
30. Duty travel		71,000	35,500	35,500
40. Capital items		15,500	7,750	7,750
50. Consumable items		303,116	152,558	150,558
60. Miscellaneous		30,700	14,850	15,850
70. Ex. Agency Management Costs (15% of Activity Budget)		197,044	100,492	96,552
Executing Agency / Host Gov't Total		979,960	493,652	486,308

7.3 Consolidated Yearly Project Budget (US\$)

BUDGET COMPONENT		UNIT	TOTAL	ITTO	FFT	Year 1	Year 2
		Person		portion	portion		
		Months					
10	Project Personnel (salary + legal burden)						
11	<i>National Experts</i>						
	Forest Operations Manager - 1 @ \$3,000/mo	24	72,000	0	72,000	36,000	36,000
	Senior Forester - 1 @ \$1,600	24	38,400	38,400	0	19,200	19,200
	Forester - 1 @ \$1,200	24	28,800	0	28,800	14,400	14,400
	Course Coordinator - 1@ \$600	24	14,400	14,400	0	7,200	7,200
	Technician I - 2 @ \$1,000	46	46,000	46,000	0	24,000	22,000
	Technician I - 1 @ \$1,000	23	23,000	0	23,000	12,000	11,000
	Technician II - 1 @ \$800	23	18,400	18,400	0	9,600	8,800
	Technician II - 1 @ \$800	23	18,400	0	18,400	9,600	8,800
	Technician III - 3 @ \$400	69	27,600	0	27,600	13,800	13,800
	Technical designer & graphics specialist - 1 @ \$750	24	18,000	0	18,000	9,000	9,000
	Botanical Technician - 1 @ \$500	15	7,000	7,000	0	3,500	3,500
	Operator Instructor I - 3 @ \$500	69	34,500	0	34,500	17,250	17,250
	Operator Instructor II - 3 @ \$375	60	22,500	0	22,500	11,250	11,250
	<i>Sub-total National Experts</i>		<i>369,000</i>	<i>124,200</i>	<i>244,800</i>	<i>186,800</i>	<i>182,200</i>
12	<i>ITTO Project Administration Personnel</i>						
	Course Logistics & Materials Coordinator - 1 @ \$792	24	19,008	19,008	0	9,504	9,504
	Accountant - 1 @ \$1,000	24	24,000	24,000	0	12,000	12,000
	<i>Sub-total Project Administration Personnel</i>		<i>43,008</i>	<i>43,008</i>	<i>0</i>	<i>21,504</i>	<i>21,504</i>
13	<i>Consultants</i>						
	Course Subject Specialists - 4 @ \$45/d +\$5DSA x 12 mos. days	16	38,400	38,400	0	19,200	19,200
	Monitoring System Consultant - 1 @ \$50/d	4	6,000	6,000	0	3,000	3,000
	Technical materials & bi-lingual report preparation - 1 @ \$50/d	2	3,000	3,000	0	1,500	1,500
	<i>Sub-total Consultants</i>		<i>47,400</i>	<i>47,400</i>	<i>0</i>	<i>23,700</i>	<i>23,700</i>
14	<i>Other Labor</i>						
	Training Camp Coordinator - 1 @ \$750	24	18,000	0	18,000	9,000	9,000
	Camp Nurse for major courses - 1 @ \$300	5	1,500	0	1,500	750	750
	Cook - I @ \$350	20	7,000	7,000	0	3,500	3,500
	Cook - II @ \$300	20	6,000	0	6,000	3,000	3,000
	Drivers - I @ \$375	24	9,000	9,000	0	4,500	4,500
	Drivers - II @ \$325	20	6,500	0	6,500	3,250	3,250

	BUDGET COMPONENT	UNIT	TOTAL	ITTO portion	FFT portion	Year 1	Year 2
	Field camp assistant - 1 @ \$200	20	4,000	0	4,000	2000	2000
	Rural labor - 8 @ \$200	144	28,800	0	28,800	14,400	14,400
	<i>Sub-total Other Labor</i>		<i>80,800</i>	<i>16,000</i>	<i>64,800</i>	<i>40,400</i>	<i>40,400</i>
16	International Experts						
	Project Director - 1 @ \$5,125	24	123,000	78,000	45,000	61,500	61,500
	International Promotional Expert - 1 @ \$200/d + \$50DSA x 5 mos.days	24	30,000	22,000	8,000	15,000	15,000
	<i>Sub-total International Experts</i>		<i>153,000</i>	<i>100,000</i>	<i>53,000</i>	<i>76,500</i>	<i>76,500</i>
19	Personnel Total		693,208	330,608	362,600	348,904	344,304
20	Sub-Contracts						
22	Translation Services		6,000	6,000	0	3,600	2,400
23	Printing Services		12,000	12,000	0	7,200	4,800
24	Independent Audit		5,000	5,000	0	0	5,000
29	Sub-Contracts Total		23,000	23,000	0	10,800	12,200
30	Duty Travel						
31	Trainer DSA		18,000	18,000	0	9,000	9,000
32	Transport Costs - FFT operational		31,000	0	31,000	15,500	15,500
33	Travel & Lodging consultants		8,000	8,000	0	4,000	4,000
	Travel & Lodging FFT operational		40,000	0	40,000	20,000	20,000
	Travel & Lodging FFT extension program		10,000	10,000	0	5,000	5,000
34	Trainee Transport		20,000	20,000	0	10,000	10,000
35	Trainee DSA		5,000	5,000	0	2,500	2,500
39	Duty Travel Total		132,000	61,000	71,000	66,000	66,000
40	Capital Items						
	Vehicle depreciation (2 yrs): 1 Hilux, 1 Toyota Bandeirante, 1 Iveco Truck		15,500	0	15,500	7,750	7,750
	Trade-in of VW bus for IVECO Diesel mini-bus		30,000	30,000	0	30,000	
49	Capital Items Total		45,500	30,000	15,500	37,750	7,750
50	Consumable Items						
51	Materials						
	Safety equipment, medicines, & 1st aid for courses participants		8,000	8,000	0	4,000	4,000
	Safety equipment, medicines, & 1st aid for training crew		8,000	0	8,000	4,000	4,000
	Technical materials for courses		22,000	0	22,000	11,000	11,000
	Office equipment & supplies		23,000	0	23,000	12,000	11,000
	Course and extension materials		16,000	16,000	0	8,000	8,000

	BUDGET COMPONENT	UNIT	TOTAL	ITTO portion	FFT portion	Year 1	Year 2
	Fuel & lubricants – operations		24,000	0	24,000	12,000	12,000
	Fuel & lubricants - training courses		8,000	8,000	0	4,000	4,000
	Food & supplies - FFT operational		10,900	0	10,900	5,000	5,900
	Food & camp supplies for courses		22,100	22,100	0	10,000	12,100
52	Equipment rental						
	CAT Tractor - 1 @ \$3,125/mo x 16 mos		50,000	0	50,000	25,000	25,000
	CAT Skidder – 1 @ \$4,438/mo x 16 mos		71,008	0	71,008	35,504	35,504
	CAT Loader - 1 @ \$3,438/mo x 16 mos		55,008	0	55,008	27,504	27,504
	Chainsaws - 10 @ \$40/mo x 18 mos		7,200	0	7,200	3,600	3,600
53	Maintenance & repairs						
	Training camp infrastructure		12,000	0	12,000	8,000	4,000
	Trainee facilities		11,000	11,000	0	7,000	4,000
	Field equipment		9,000	0	9,000	5,000	4,000
	Trainee vehicles		8,000	8,000	0	3,000	5,000
	Operational vehicles		11,000		11,000	6,000	5,000
54	Course promotion and communication		8,000	8,000	0	4,000	4,000
59	Consumables Total		384,216	81,100	303,116	194,608	189,608
60	Miscellaneous						
61	Contingency & petty cash		2,500	2,500	0	1,000	1,500
62	Short term project support (non-administrative)		13,000	0	13,000	6,500	6,500
63	Trainee insurance - 410 x \$6.10 per participant		2,500	2,500	0	1,300	1,200
64	Trainer and FFT insurance		17,700	0	17,700	8,850	8,850
69	Miscellaneous Total		35,700	5,000	30,700	17,650	18,050
70	Ex. Agency Mgt Costs (15% of Activity Budget)		197,044	0	197,044	100,492	96,552
79	Ex. Agency Mgt Total		197,044		197,044	100,492	96,552
Sub-total			1,510,668	530,708	979,960	776,204	734,464
80	ITTO Administration, Monitoring & Evaluation						
81	Monitoring & Evaluation		20,000	20,000	0	10,000	10,000
82	Ex-post evaluation		15,000	15,000	0		15,000
83	Program Support Costs (6% of ITTO portion)		33,942	33,942	0	16,971	16,971
89	ITTO Administration Total		68,942	68,942	0	26,971	41,971
99	GRAND TOTAL		1,579,610	599,650	979,960	803,176	776,435

Part III: Operational Arrangements

1. Management Structure

IBAMA and PNF will coordinate the project for ITTO and together with ABC (Brazilian Agency for International Cooperation) will audit the project's activities. FFT, in cooperation with TFF, is the executing agency in charge of all field activities and will report to ITTO. The Steering Committee will monitor the execution of the project and deliberate on operational and administrative issues. FFT's Technical Advisory Committee (TAC) will discuss and advise on technical issues. The Project Organization Chart (Annex C) illustrates relationships among these organizations as well as the overall management structure for the project.

Government institutions (e.g., EMBRAPA, IBAMA, INPA, MPEG, and SECTAM), NGOs (e.g., AMAZON and IPAM), and universities (e.g., FCAP) will provide personnel to present lectures on subjects related to the project objectives including: silviculture, forest ecology, environmental impacts, and forest legislation and economics. These partner institutions will also have an opportunity to conduct research on various issues emerging as a result of the project.

2. Monitoring, Reporting and Evaluation

Project progress reports

FFT will prepare and submit three progress reports to all these parties starting 9 months after the project initiation date. Specifically, these reports will be completed in February 2004, September 2004 and February 2005. FFT will submit the progress reports (financial and operational) to the ABC and the Agricultural and Commodities Division (DPB) for analysis and to facilitate national monitoring. Once approved, ABC will forward the reports to ITTO for consideration.

Project completion report

FFT will prepare and submit the project completion report to ITTO and ABC within 3 months of project completion. The same procedure described above will be followed.

Project technical reports

The principal technical documents this project will generate are (i) the trainer's manual, (ii) other training and teaching aids used in the courses and extension activities, and (iii) a report based on the test of the monitoring system to assess the impact of the training courses (output 1.8). FFT will submit all of these technical documents to ITTO with the project completion report. In addition, FFT will make available to ITTO and other interested parties any other relevant reports generated as a result of the project.

Monitoring, review and steering committee visits

The project steering committee, IBAMA/PNF, ABC, FFT, and ITTO will share responsibility for project monitoring. The steering committee will meet three times during the project (see workplan). The specific dates will be determined once the project begins, but the proposed dates are November 2003, April 2004 and April 2005.

Evaluation

The project will be subject to *ex-post* evaluation in accordance with Guidelines established by the ITTO Manual of Project Monitoring, Review and Evaluation. ABC will also evaluate the project according to the Brazilian technical cooperation guidelines.

3. Future Operation and Maintenance

Continued use of assets

It is hoped that a longer term, more sustainable training program will be established by the time this project terminates. FFT's existing program will be absorbed by the new Brazilian NGO Instituto Floresta Tropical (IFT), which in turn will evolve into this new program. Assuming these plans are realized, the IFT will continue using the principal assets generated as a result of this project. IFT will use the facilities – especially the training camp and numerous silvicultural and FM-RIL demonstration sites in Cauaxi – and materials developed as a result of this project in its longer-term training program.

Continuation of program following project termination

As mentioned several times in this proposal, the problem of lack of trained forestry practitioners is deep, characteristic of most parts of the Amazon Basin, and likely to persist for several years the outputs of this project notwithstanding. Ultimately, therefore, this problem will be most effectively addressed with a long-term, self-sufficient, training center dedicated to providing practical, on-site training for forest sector professionals at all levels. The GoB, FFT and other partners are committed to developing such a center by the time the proposed project terminates. Assuming that goal is achieved, the training and extension activities executed by the current project will be expanded, codified, and continued by the new center.

Since the idea of developing an Amazon forest management training center was first advanced during the July 1999 ITTO Steering Committee meeting, FFT, the GoB, and other partners have already made significant progress toward its establishment. At the July meeting, the Steering Committee suggested that FFT submit a proposal to help fund the training center's establishment and operation. For various reasons the proposal was not submitted. With funding from USAID Brazil, FFT developed a more detailed proposal and business plan. FFT submitted the peer-reviewed version to both the GoB and other potential donors in December 2001 (see Annex J).

Although various meetings and workshops to advance the training center's establishment were held over the past 36 months, a conclusive meeting took place on the 25th of February 2003 between the Ministry of Environment (MMA), IBAMA, and FFT. At this meeting, MMA, IBAMA, and FFT reached consensus on various issues and set a time schedule set for the establishment of the training center (see Annex K). One key agreement was that the center would not only serve Brazil but also other ITTO member countries in the Amazon basin. In addition, the partners agreed that the training activities of this center would target the full range of forestry practitioners (all actors relevant to the implementation of FM-RIL) as well as a broad spectrum of entities in the forest sector. A final key point of consensus was that the center would be operated on a partnership basis with many organizations that both financially support the center and actively participate in the center's activities and programs.

Part IV. The Tropical Timber Framework

1. Compliance with ITTA Objectives

This project proposal is consistent with the following ITTO objectives:

- To help research & development which will improve forest management and wood use
- To encourage tropical timber reforestation and forest management
- To encourage national policies which aim at sustainable use and conservation of tropical forests and their genetic resources, and at maintaining the ecological balance in the regions concerned

The project also complies with ITTO criteria established by the Committee on Reforestation and Forest Management and is principally related to the following areas:

- Natural Forest Management
- Harvesting, logging infrastructure, training of technical personnel

The project also with each of the following objectives established by this committee:

- relation to production and use of industrial tropical timber
- benefits to the tropical timber economy and relevance to producing and consuming nations
- relation to maintenance and expansion of the international tropical timber trade
- prospects for positive economic returns
- use of existing research institutions and relationship to other efforts supported by ITTO

2. Compliance with ITTO Action Plan

This project proposal is consistent with the ITTO Action Plan and it relates to the priorities established by the *Committee on Reforestation and Forest Management* in the areas classified within Demonstration as follows:

- Demonstrate the economic viability and promote long-term investments in sustainable forest management
- Develop and promote the intellectual, economic and technological basis for integrated forest management systems and optimal use of the tropical forests, taking in consideration multiple benefits that can be derived from them
- Assist in creating a scientific basis for sound forest management

and within Facilitation as follows:

- Promote and assist in the development of adequate skills for research and for implementation of forest management operations

- Facilitate the establishment of demonstration areas that reflect different models of management to enhance the transfer of technology and scientific knowledge

It also relates to the following priority established by the *Forest Industry Committee*:

- Promotion of human resources development on all levels.

Finally, it is worth noting that this proposal is consistent with the recommendations of the recently conducted diagnostic survey¹⁵ in Brazil to elucidate the key impediments to the achievement of the ITTO 2000 objective in Brazil. The report concluded that the ITTO should support proposals in five categories. The development of human resources for the implementation of sustainable forest management was one of the priority areas for ITTO support recommended in the report. This project aims to achieve exactly that goal.

¹⁵ ITTO (International Tropical Timber Organization). 2002. *Achieving the ITTO Objective 2000 and sustainable forest management in Brazil*. ITTO, Yokohama, Japan. 104p.

Annex A. Executing Agency Profile

Executing Agency Expertise

In 1994, the Tropical Forest Foundation (TFF), a U.S. based non-profit organization dedicated to the achievement of sustainable forest management in the tropics, established its FM-RIL program in the Brazilian Amazon. Building on IMAZON's research that demonstrated the technical feasibility and financial viability of FM-RIL, TFF's objective was to accelerate the adoption of FM-RIL by producers across the Amazon. In 1995, TFF created a subsidiary, the Fundação Floresta Tropical (FFT), to implement this program. The FM-RIL program integrates practical training with demonstration models and applied research. It also involves a broad coalition of stakeholders including private landowners, industry, the conservation community, government agencies, and donors. The FFT organizational chart is at the end of this annex.

FFT/TFF Accomplishments

- 7 years of practical training experience
- 1,200 people trained
- \$5.5 million in international grants received
- 8 years of FM-RIL model development
- 12 practical FM-RIL manuals published
- Several videos (including training videos) distributed
- Helped IBAMA improve FM regulations

By 1997, FFT had established five FM-RIL model sites and trained a core crew of foresters, technicians, and operators. With funds from USAID and the World Bank, the FFT crew trained other forestry practitioners through on-site field courses. In 1998, FFT began a 2-year ITTO-funded project that eventually trained 138 foresters, trainers, and technicians from Brazil, Guyana, Suriname, Colombia, Ecuador, Peru, Venezuela, and Ghana. In 2000 and 2001, FFT continued and expanded its training courses with funds from ProManejo. Including the training of personnel and other involvement, for the companies which have been SFC certified in the Amazon during this period.

To date, funding to pay for the costs incurred by FFT has been through the generous assistance of international donors. In the past three years, USAID, USFS, ProManejo, Caterpillar, Inc., and the British Embassy have provided the bulk of FFT's support. Overall, in the past 6 years, TFF and FFT have raised over 5.5 million dollars from international donors in a combined effort to improve forest management in the Brazilian Amazon.

The practical training offered by FFT, along with many other related efforts, has catalyzed a strong interest in forest management and created a demand for skilled forestry personnel at all levels. In the past 5 years, FFT has received an increasing number of requests for qualified people from all sectors as well as from all types of producers. FFT's rainy season extension work has contributed in part to this increasing demand. FFT's applied research – especially the recently published cost-benefit study that demonstrated the cost-effectiveness of FM-RIL – has also played a key role in convincing producers to adopt better management practices.

FFT's success in Brazil prompted TFF to extend its efforts to other tropical regions. At present, TFF also has FM-RIL projects in Indonesia and Guyana – with active or pending ITTO projects in both countries – and is working with partners to promote the adoption of sustainable forest management in other regions as well.

Executing Agency Infrastructure

TFF is headquartered in Alexandria, VA, USA, where it rents office space with meeting rooms. Its location allows TFF to interact with the numerous international development and conservation agencies based in Washington, D.C.

FFT is headquartered in Belem, Pará, Brazil where it rents an office. FFT's Director and permanent staff work out of this office, which is equipped with a computer network and other standard office equipment and supplies. FFT stores all its field equipment and supplies as well as its vehicles at this office. FFT's location affords it easy access to banking and other key services as well as to the numerous government agencies and other institutions working to improve forest management in the Amazon.

FFT has established FM-RIL demonstration models in five different forest sites in the Brazilian Amazon. FFT has conducted training courses at all of these sites, but one of them, Fazenda Cauaxi (near Paragominas, Pará), has been FFT's principal training site for the past 6 years.

Fazenda Cauaxi was the site of FFT's first ITTO supported project, PD 45/97 Rev. 1(F), and has also served as the site for courses FFT has conducted with ProManejo support. The landowner, CIKEL, has allocated more than 2,000 ha for FFT to conduct training over the next 4-5 years. It is noteworthy that after 4 years of quietly observing FFT's FM-RIL activities at this site, CIKEL finally requested that FFT train all of its field personnel; CIKEL is now the largest producer of certified wood in tropical South America. Every year, the site becomes more valuable for training because it (i) has a suitable field camp with access to potable water; and (ii) is accessible to forest areas harvested with FM-RIL practices since 1995; and (iii) has been used as a training and applied research site since 1995. These latter two advantages in particular make the site invaluable for training because course participants can observe the results of various years of FM-RIL harvesting as well as silvicultural and other experiments.

Executing Agency Budget

During the past three years, FFT's annual budget has averaged about \$650,000. FFT had to reduce its budget somewhat in 2002 – mostly by reducing staff – because the ProManejo program ended. The following table shows the approximate cash budget for corresponding components for the past three years:

Component	2000	2001	2002
Personnel	399,000	380,000	373,000
Sub-contracts	23,000	22,000	21,000
Capital	30,000	27,000	27,000
Consumables	196,000	184,000	179,000
Travel	29,000	27,000	27,000
TOTAL	<u>677,000</u>	<u>641,000</u>	<u>627,000</u>

These budget numbers do not show the total cost for TFF administration and overhead nor most of the in kind contributions. It is important to note that the decrease steady decrease in expenses is a result of the exchange rate fluctuation: in 2000, the rate was bad; in 2001, it was normal; and in 2002 it was favorable. The exchange rate masks the fact that most costs stayed the same and personnel salaries actually increased in the past 3 years because the trainers have gained more experience and been upgraded through professional development workshops. It is worth noting that the annual budget for personnel in the proposed budget is very much inline with the costs shown in the above table.

Executing Agency Personnel

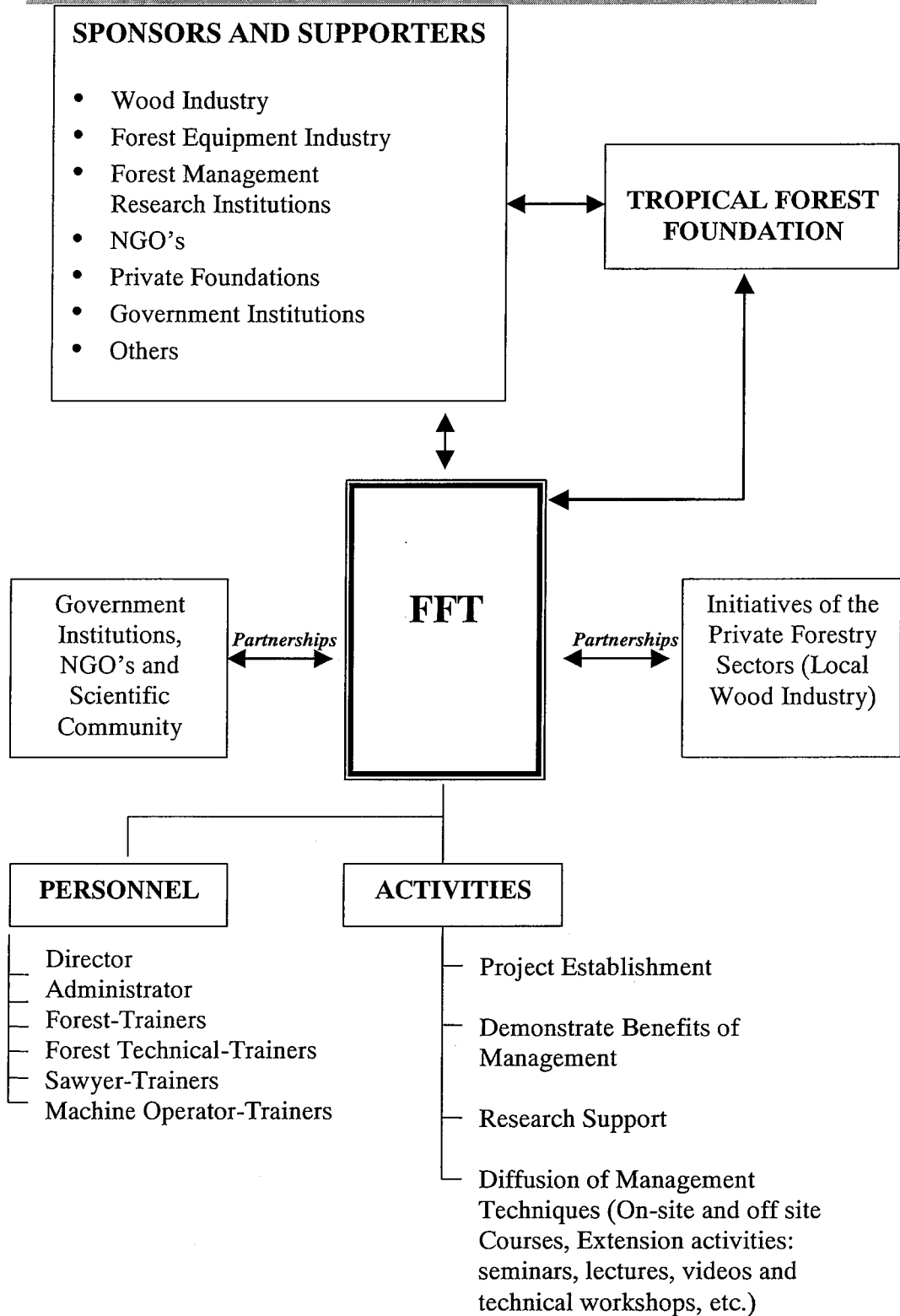
FFT has invested substantial time and money in developing the professional skills of its training staff. Other key staff members, including management and administrative personnel are also pushed to continue developing their skills. Because training is a central activity for FFT, it has a large permanent staff of qualified and experienced personnel. FFT's apprenticeship program has allowed it to provide extensive training to young foresters and technicians, several of whom are now part of FFT's training staff. The table below shows the number of FFT staff personnel with their corresponding levels and functions, this does not include the 12 additional qualified field personnel which are supplied by the CIKEL company as counterpart support:

<u>Level of Expertise</u>	<u>Personnel (number)</u>
Post-graduation degrees	3
Graduation degrees	5
Mid-level technicians	12
Administrative	4
Field Support (cooks – drivers)	4
Total staff in forestry related field	28

In addition to these permanent staff, FFT benefits from its partnership with CIKEL, which provides 12 field assistants for FFT's training courses and other field activities in Cauaxi.

FUNDAÇÃO FLORESTA TROPICAL

Organization Chart



Anexx B. Terms of Reference and Curricula Vitae

National Experts

Function: Forest Operations Manager

Title: Forester

Qualifications:

- Professional with 6 years of experience in tropical forestry and in education or training
- Specific forest management and RIL experience in the Brazilian Amazon.
- Specialization in community forest management and small riverine producers.
- Minimum 5 years experience in project coordination and administration
- Strong communication and organizational skills
- Proven leadership abilities
- Proven abilities to coordinate and negotiate with key stakeholders including government agency officials
- Fluent in Portuguese and Spanish, English desirable

Responsibilities:

- Substitute for the Director in his absence
- Coordinate logistical and technical aspects of project (establishing contact with applicants, communicating with candidates, helping schedule courses, updating course content and materials, compiling/distributing course evaluation and trainee recommendations)
- Maintain dialogue between FFT, the Steering Committee and ITTO
- Coordinate courses and extension activities
- Responsible for fulfilling course requirements
- Write progress reports in accordance with ITTO guidelines
- Assist in participant selection process
- Assist in development of training materials
- Provide lectures on costs & benefits of FM-RIL
- Provide lectures on community forestry and small producers
- Coordinate production of training materials
- Assist in development of course promotional materials
- Assist in the coordination of technical and operational materials.
- Help acquire imported technical and safety equipment

Function: Senior Forester

Title: Senior Forester

Qualifications:

- Brazilian national
- Fluent in Portuguese, Spanish desirable
- Minimum 3 years experience in administration of forestry activities, forest management, forest harvesting and silviculture in the Amazon
- Experience in the function of forest harvesting equipment and implementation of RIL operations
- Knowledge and experience in data collection and processing

- Good communication skills and proven capacity to train others
- Experience conducting seminars and giving lectures
- Proven ability to manage and relate to employees
- Knowledge of and ability to enforce safety and hygiene regulations

Responsibilities:

- Coordinate and directly participate in field activities
- Coordinate and participate in data processing and analysis
- Participate in the development of training materials
- Assist in planning and developing course activities
- Develop and give lectures about various FM-RIL activities and methods
- Supervise all project personnel and provide leadership on all project activities
- Enforce safety and hygiene regulations for all course related activities
- Assign work details to field crew on a daily basis

Function: Course Coordinator

Title: Course Coordinator

Qualifications:

- Bilingual – Spanish, Portuguese and English desirable
- General computer skills (e.g., word processing, spreadsheets, and preparation of summary tables)
- Good communication (writing and speaking) and organizational skills

Responsibilities:

- Coordinate all administrative activities related to trainees
- Organize and maintain all course materials, correspondences and contacts
- Provide management with summaries of participant requests for evaluation
- Provide information to all those interested how to participate in the courses
- Make travel arrangements and purchase necessary tickets

Function: Forester

Title: Forester

Qualifications:

- Brazilian national
- Fluent in Portuguese; Spanish desirable
- Minimum 3 years experience in administration of forestry activities, forest management, forest harvesting and silviculture in the Amazon
- Knowledge of RIL methods for forest harvesting machines
- Knowledge and experience in data collection and processing
- Good communication skills and proven capacity to train others
- Proven capacity to give lectures to a variety of audiences
- Knowledge of and ability to enforce safety and hygiene regulations

Responsibilities:

- Coordinate and directly participate in field activities

- Coordinate and participate in data processing in the field
- Develop and give lectures about various FM-RIL methods
- Organize and facilitate debates about the field practices
- Enforce safety and hygiene regulations for all course related activities
- Assign work detail to field crew and supervise their activities
- Substitute for the Senior Forester in his absence.

Function: Forest Technician logging and forestry machine specialist

Title: Technician I

Qualifications:

- Brazilian national
- Fluent in Portuguese, Spanish desirable
- Professional with more than 5 years experience implementing FM-RIL methods in the Amazon
- Professional with more than 5 years experience giving lectures and conducting courses in FM-RIL in the Amazon
- Specific experience in mechanized harvest activities
- Proven ability with heavy equipment use and chainsaw practices
- Manual map-making (Draftsman) skills
- Proven ability to supervise field crews
- Good communication skills
- Computer skills (including ArcView, Excel, and Access)
- Knowledge of and ability to enforce safety regulations

Responsibilities:

- Supervise crews during execution of field activities
- Review and disseminate practical and theoretical knowledge during the courses
- Develop and improve training materials for courses on heavy equipment and chainsaws use.
- Provide lectures on the use of heavy equipment and chainsaw practices and maintenance
- Discuss field practices with crews and with course participants
- Develop and give lectures on logging methods with emphasis on safety
- Be able to substitute as lecturer for other FM-RIL activities
- Be able to provide lectures on manual map making and different types of maps in FM-RIL
- Enforce safety regulations for all course related activities
- Assign work to field crew

Function: Forest Technician pre-harvest and post harvest activities specialist

Title: Technician I

Qualifications:

- Brazilian national
- Fluent in Portuguese, Spanish desirable
- Professional with more than 5 years experience implementing FM-RIL methods in the Amazon
- Professional with more than 5 years experience giving lectures and conducting courses in FM-RIL in the Amazon

- Specific experience in carrying out pre-harvest and post harvest components of FM-RIL
- Knowledge of silvicultural treatments and the ability to provide instruction on the same.
- Proven ability to supervise field crews
- Good communication skills
- Computer skills (including Excel and Access)
- Knowledge of and ability to enforce safety regulations

Responsibilities:

- Supervise crews during execution of field activities
- Review and disseminate practical and theoretical knowledge during the courses
- Discuss field practices with crews and with course participants
- Develop and give lectures on pre harvest activity methods
- Develop and give lectures on silvicultural post harvest practices
- Be able to substitute for other field activities in harvest and planning
- Computer skills (including Excel and Access)
- Provide lectures on inventory data processing.
- Enforce safety regulations for all course related activities
- Assign work to field crew

Function: Forest Technician harvest planning specialist

Title: Technician I

Qualifications:

- Brazilian national
- Fluent in Portuguese, Spanish desirable
- Professional with more than 5 years experience implementing FM-RIL methods in the Amazon
- Professional with more than 5 years experience giving lectures and conducting courses in FM-RIL in the Amazon
- Specific experience in harvest planning, including roads, skid trails, and drainage systems.
- Understand the use of heavy equipment used in FM-RIL methods
- Proven ability to supervise field crews
- Good communication skills
- Computer skills (including Excel and Access)
- Familiarity with special technical equipment used in land surveys, road layout, and general planning.
- Ability to use and conduct courses in road layout and block layout, skid trail layout.
- Knowledge of and ability to enforce safety regulations

Responsibilities:

- Supervise crews during execution of field activities
- Be able to substitute other technical trainers in any other FM-RIL activity
- Review and disseminate practical and theoretical knowledge during the courses
- Discuss field practices with crews and with course participants
- Develop and give lectures on harvest planning activity methods
- Provide lectures on heavy equipment use in FM-RIL
- Enforce safety regulations for all course related activities
- Assign work to field crew

Function: Forest Technician

Title: Technician II

Qualifications:

- Brazilian national
- Fluent in Portuguese, Spanish desirable
- Professional with more than 3 years experience implementing FM-RIL methods in the Amazon
- Professional with more than 3 years experience giving lectures and conducting courses in FM-RIL in the Amazon
- Proven ability to supervise field crews
- Good communication skills
- Computer skills and in particular with, Excel, Access, ArcView and other mapping programs
- Knowledge of and ability to enforce safety regulations

Responsibilities:

- Supervise crews during execution of field activities
- Review and disseminate practical and theoretical knowledge during the courses
- Discuss field practices with crews and with course participants
- Give lectures on pre harvest, harvest and post harvest activities methods
- Provide lectures on computer use in FM-RIL and in particular ArcView and inventory processing
- Substitute for (or assist) Technician I in field training of participants
- Enforce safety regulations for all course related activities
- Assign work to field crew

Function: Forest Technician

Title: Technician III

Qualifications:

- Brazilian national
- Fluent in Portuguese; Spanish desirable
- Professional with more than 2 years experience implementing FM-RIL practices in the Amazon
- Proven ability to supervise field crews
- Good communication skills and prior training experience
- Experience giving lectures
- Computer skills
- Knowledge of and ability to enforce safety regulations

Responsibilities:

- Supervise crews during execution of field activities
- Discuss field practices with crews and with course participants
- Support Technician I and II in their training activities
- Enforce safety regulations for all course related activities
- Assign work detail to field crew

Function: Technical designer and graphics specialist

Title: Technical designer and graphics specialist

Qualifications:

- Brazilian national
- Computer skills (graphic design software and Powerpoint)
- Proven ability to develop training materials and illustrations

Responsibilities:

- Develop graphics and illustrations for technical material
- Review and up-date the lay out and general presentation of technical materials
- Support the technicians in developing visual training aids

Function: Tree identifier

Title: Botanical Technician

Qualifications:

- Brazilian national
- Fluent in Portuguese; Spanish desirable
- Professional with more than 20 years experience in the identification of Amazon forest species as well as in the collection and preservation of botanical specimens
- At least 5 years of practical experience conducting 100% and permanent plot inventories

Responsibilities:

- Identify plant species (common and scientific), principally woody species (all size classes) during forest inventory and permanent plot survey
- Collect botanical specimens for future identification and preservation
- Convey basic knowledge about how to systematically identify principal timber species
- Support the technician I, who lectures on inventory systems

Function: Crawler tractor operator and instructor

Title: Operator Instructor I

Qualifications:

- Brazilian national
- Fluent in Portuguese
- Professional with more than 15 years experience operating various crawler tractor models
- Development training in a factory or authorized technical assistance provider
- At least 5 years experience in implementation of FM-RIL practices in the Amazon
- At least 5 years experience giving lectures and conducting courses in FM-RIL in the Amazon
- Good communication skills
- Ability to monitor the operation and maintenance of machines and related equipment
- Knowledge of safety regulations

Responsibilities:

- Convey RIL operating methods of the crawler tractor and related equipment as needed throughout the project
- Use appropriate operational techniques designed to reduce the impact of the machines on the forest
- Provide lectures and disseminate knowledge about the operation and maintenance of the machines and related equipment during the course
- Observe safety regulations

Function: Skidder operator and instructor

Title: Operator Instructor I

Qualifications:

- Brazilian national
- Fluent in Portuguese
- Professional with more than 15 years experience operating various models of articulated, wheeled tractors
- Development training in a factory or authorized technical assistance provider
- At least 5 years experience in implementation of FM-RIL practices in the Amazon
- At least 5 years experience giving lectures and conducting courses in FM-RIL in the Amazon
- Good communication skills
- Ability to monitor the operation and maintenance of machines and related equipment
- Knowledge of safety regulations

Responsibilities:

- Convey RIL operating methods of the crawler tractor and related equipment as needed throughout the project
- Use appropriate operational techniques designed to reduce the impact of the machines on the forest
- Provide lectures and disseminate knowledge about the operation and maintenance of the machines and related equipment during the course
- Observe safety regulations

Function: Sawyer and instructor

Title: Operator Instructor I

Qualifications:

- Brazilian national
- Fluent in Portuguese
- Professional with more than 10 years experience operating chainsaws
- Development training in a factory or authorized technical assistance provider, including mechanics, operation, maintenance and cutting techniques
- At least 5 years experience in implementation of FM-RIL practices with application of directional felling methods in the Amazon
- At least 5 years experience giving lectures and conducting courses in FM-RIL in the Amazon
- Good communication skills
- Ability to monitor the operation and maintenance of chainsaws in the field
- Knowledge of safety regulations

Responsibilities:

- Convey RIL operating methods of the crawler tractor and related equipment as needed throughout the project
- Use appropriate operational techniques designed to reduce the impact of tree felling on the residual forest
- Review and disseminate knowledge about the operation and maintenance of chainsaw during courses
- Observe safety regulations

Function: Loader operator and instructor

Title: Operator Instructor II

Qualifications:

- Professional with more than 5 years experience
- Experience operating and maintaining heavy machines
- Good communication skills
- Ability to monitor the operation & maintenance of machines and related equipment in the field
- Knowledge of safety regulations

Responsibilities:

- Convey RIL operating methods of the loader as needed throughout the project
- Use appropriate techniques to reduce the impact of machine use on the forest
- Review and disseminate knowledge about the operation and maintenance of the loader during the courses
- Be able to substitute other equipment operators on a variety of machines
- Observe safety regulations

Function: Sawyer and instructor

Title: Operator Instructor II

Qualifications:

- Brazilian national
- Fluent in Portuguese
- Professional with 5 years experience operating chainsaws
- Development training in a factory or authorized technical assistance provider, including mechanics, operation, maintenance and cutting techniques
- At least 2 years experience in implementation of FM-RIL practices with application of directional felling methods in the Amazon
- At least 2 years experience giving lectures and conducting courses in FM-RIL in the Amazon
- Good communication skills
- Ability to monitor the operation and maintenance of chainsaws in the field
- Knowledge of safety regulations

Responsibilities:

- Convey RIL operating methods of the crawler tractor and related equipment as needed throughout the project

- Use appropriate operational techniques designed to reduce the impact of tree felling on the residual forest
- Review and disseminate knowledge about the operation and maintenance of chainsaw during the course
- Be able to substitute for the sawyer I in lectures and courses on chainsaw operation and maintenance
- Observe safety regulations

Function: Equipment operator and instructor

Title: Operator Instructor II

Qualifications:

- Brazilian national
- Fluent in Portuguese
- Professional with more than 5 years experience operating related forests equipments
- Development training in a factory or authorized technical assistance provider
- At least 2 years experience in implementation of FM-RIL practices in the Amazon
- At least 2 years experience giving lectures and conducting courses in FM-RIL in the Amazon
- Good communication skills
- Ability to monitor the operation and maintenance of machines and related equipment
- Knowledge of safety regulations

Responsibilities:

- Convey RIL operating methods of related equipment as needed throughout the project
- Use appropriate operational techniques designed to reduce the impact of the machines on the forest
- Review and disseminate knowledge about the operation and maintenance of the machines and related equipment during the course
- Observe safety regulations

ITTO Project Administration Personnel

Function: Course Logistics & Materials Coordinator

Title: Course Logistics & Materials Coordinator

Qualifications:

- Brazilian national
- Fluent in Portuguese; Spanish desirable
- At least 20 years experience in business administration with an emphasis in purchasing and acquisition of materials, supplies and equipment, for forest management projects in the Amazon
- Proven ability to provide logistical support to field crews and to maintain field vehicles
- Accounting knowledge and experience

Responsibilities:

- Acquire all necessary materials, supplies and equipment for courses
- Provide all logistics support for courses and field activities
- Maintain all vehicles associate with participant travel and course activities in good order
- Acquire provisions and necessary food supplies for courses
- Maintain direct communication with field crews

Function: Accountant

Title: Accountant

Qualifications:

- Brazilian national
- Fluent in Portuguese; Spanish and some English desirable
- Accounting specialization
- 10 years experience in business administration with an emphasis in project accounting in the Amazon

Responsibilities:

- Maintain accurate and up-to-date accounting records for the ITTO project
- Maintain direct communication with project director

Other Labour

Function: Training camp coordinator

Title: Training camp coordinator

Qualifications:

- Brazilian national
- Knowledge of and ability to maintain a clear area
- Knowledge of safety regulations

Responsibilities:

- Total responsibility for training camp maintenance
- Enforce safety regulations in training camp area
- Storage of all technical materials, supplies and equipment

Function: Camp Nurse

Title: Nurse technician

Qualifications:

- Brazilian national
- Fluent in Portuguese, Spanish desirable
- At least 2 years experience
- Good communication skills
- Knowledge of safety regulations

Responsibilities:

- Assist all courses and give nursing assistance for trainees, trainer and field crew
- Control, organize and maintain first aid materials and equipments

Function: Cook I

Title: Cook I

Qualifications:

- Professional with 5 years experience cooking in field camps
- Experience in the requisition and control of provisions and necessary cooking supplies
- Knowledge of and ability to provide a healthy, balanced diet
- Knowledge of hygiene and ability to maintain a clean cooking area

Responsibilities:

- Coordinate and supervise all kitchen related activities
- Responsible for timely requisition of adequate food throughout the project period
- Forecast and make lists of all necessary supplies and provisions
- Observe safety and hygiene regulations

Function: Cook II

Title: Cook II

Qualifications:

- Professional with 2 years experience cooking in field camps
- Experience in the acquisition and control of provisions and necessary cooking supplies
- Knowledge of hygiene and ability to maintain a clean cooking area

Responsibilities:

- Help Cook I in kitchen related activities
- Responsible for timely delivery of adequate food throughout the project
- Control and make lists of all necessary supplies and provisions
- Observe safety and hygiene regulations

Function: Driver I

Title: Driver I

Qualifications:

- Professional with more than 5 years experience and a Class C operating license
- Experience working in forest areas
- Good communication skills
- Knowledge of safety regulations

Responsibilities:

- Total responsibility for the operation and maintenance of field support vehicles and drivers
- Daily transport of crews, food and needed supplies as needed throughout the project
- Observe safety regulations

Function: Driver II

Title: Driver II

Qualifications:

- Professional with at least 2 years experience and a Class C operating license
- Experience working in forest areas

- Good communication skills
- Knowledge of safety regulations

Responsibilities:

- Operation and maintenance of field support vehicles
- Daily transport of crews, food and needed supplies as needed throughout the project
- Observe safety regulations

Function: Field camp assistant

Title: Field camp assistant

Qualifications:

- Basic verbal skills
- Experience working on a field crew

Responsibilities:

- Help maintain clean and safe living quarters in the field
- Assist kitchen staff as needed throughout project

Function: Field crew assistant

Title: Laborers

Qualifications:

- Basic verbal skills
- Experience working on a field

Responsibilities:

- Help technicians and operators in the field work

International Experts

Function: General Director

Title: Project director

Qualifications:

- Degree in Forestry and Forest Management
- 30 years of direct forest management experience in the Brazilian Amazon with expertise in reduced impact logging
- 25 years experience in project management, personnel management and training
- Specific experience working with – and creating linkages among – government, industry, NGOs and international development institutions
- Fluent in Portuguese and English, Spanish desirable

Responsibilities:

- Manage and supervise all project activities including preparation, training, evaluation and follow-up
- Manage and supervise all project personnel
- Manage project finances and supervise accounting

- Supervise selection of course participants
- Meet with Steering Committee to review results and at other times as needed
- Meet with independent auditor to review financial accounts
- Approve purchase of all capital items
- Supervise and approve acquisition and transport of all equipment and materials
- Supervise development of training materials
- Approve progress reports
- Report to Board of Directors and Donors

Function: International course promotion

Title: International promotional expert

Qualifications:

- 30 years experience and expertise in information dissemination with specific experience in the tropical timber industry
- Proven ability to organize and run major international events
- At least 10 years of experience in fundraising for NGO activities in forest management
- At least 6 years of experience promoting and facilitating FM-RIL training courses

Responsibilities:

- Advise officials in relevant government agencies, universities and NGOs in LAC of training opportunity, request cooperation and assistance in advertising and promoting courses
- Establish and maintain database off all relevant contacts for courses in non ITTO member countries
- Assist in counterpart fundraising in conjunction with the project director
- Work with project director and coordinator to develop course promotional materials
- Supervise development, production and distribution of course promotional materials
- Supervise establishment of a course database including all relevant contacts

Consultants

Function: Consultant

Title: First Aid and Safety Instructor for forest workers

Qualifications:

- Professional with more than 6 years experience as Military First Aid and Safety instructor
- Specific experience as instructor of first aid
- Good communication skills
- Experience giving lectures
- Knowledge of safety regulations

Responsibilities:

- Develop and give lecture on first aid for forest workers
- Disseminate practical and theoretical knowledge during the courses
- Instructor in safety regulations
- Develop specific manual for forest workers first aid and safety

Function: Consultant

Title: *Environmental Law*

Qualifications:

- Fluent in Portuguese; Spanish desirable
- Minimum 5 years research experience in Brazilian environmental law with a concentration on forestry laws, policies, and regulations (especially of those pertaining to Amazon forests)
- Working knowledge of environmental, forestry, and other relevant laws and regulations from all ITTO member countries in the LAC region
- Author of peer-reviewed articles and various lectures on this subject
- Experience teaching environmental law and related topics

Responsibilities:

- Give classes on Brazilian forestry laws and regulations
- Facilitate exchange of information on national forestry laws among trainees from participating countries
- Facilitate discussion regarding international pressures for and against forest resource utilization given the socio-economic, political and environmental context in Brazil
- Facilitate discussion on impact of international and national trade and commercial practices on forest management
- Prepare training materials on Brazilian forestry legislation for inclusion in the training manual

Function: Consultant

Title: *Silviculture and Forest Management*

Qualifications:

- Fluent in Portuguese; Spanish desirable
- Minimum 15 years research experience in forest management and silviculture with a principal focus in tropical forests
- Author of peer-reviewed articles and lectures in this area
- Experience teaching graduate level forest management and silviculture; experience developing and conducting scientific research in this area

Responsibilities:

- Give classes on tropical forest management and silviculture
- Explain and demonstrate in a practical way the benefits of FM-LIL principles and practices from a silvicultural perspective
- Explain the use and theory of various silvicultural systems, the application of silvicultural treatments, and specific silvicultural adaptations for Amazon forests
- Facilitate discussion of the rationale for as well as advantages and implications of various silvicultural treatments (e.g. vine cutting, poisoning-girdling, etc)
- Prepare training materials on these subjects for training manual

Function: Consultant

Title: *Ecology*

Qualifications:

- Fluent in Portuguese; Spanish desirable
- Minimum 5 years ecology research experience with a principal focus in tropical forest ecology
- Author of peer-reviewed articles and various lectures on this subject
- Experience teaching graduate level ecology; experience developing and conducting scientific research

Responsibilities:

- Give classes on Amazon forest ecology including background on goods and services of forest (e.g. nutrient cycling, mitigation of climate, watershed protection, habitat, wood and non-wood products, etc.)
- Explain ecological foundation of forest management including background on tree growth and regeneration, pollination, seed dispersal, and the role of pollinators and seed dispersal agents
- Facilitate discussions on the ecological effects of logging with emphasis on the difference between FM-LIL and conventional logging
- Prepare bibliography of key ecology resources for inclusion in training material
- Prepare training materials on forest ecology and the ecological impacts of logging for inclusion in the training material

Curricula Vitae of Key Staff

General Director

Johan Cornelis Zweede

Profession: Tropical Forester

Function: Director FFT – Tropical Forestry
Consultant

Birth date: 01-07-1940

CIC: 028 999 222 20

Ident. number: W 590371 SERDPMAF

Schooling: Graduate in Biolog, Syracuse
Univerty, Syracuse, N. Y.

Graduate in Tropical Forestry, New York State
University, N. Y.

Nationality: United Estates of America

Native: Indonesia

PROFESSIONAL EXPERIENCE:

1994 – to present: Director of Fundação Floresta Tropical, Belém - PA

- Responsible for coordinating and implementing reduce 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.
- 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;
- Responsible for proposals and reporting to Board of Directors and Donors.

1989 – 1996 Consultant – Various institutions Belém – PA

- Auditing and Leading certification teams (Forest Certification), for FSC through “Rainforest Alliance & Scientific Certification Systems”, of native and plantation forests in Brazil and Latin America
- Researcher of EMBRAPA / CPATU, in the area of forest management and silviculture
- Coordinated and organized with investigators, industrialists in seminars on LIL harvesting.
- Presentation of lectures on forest management and silviculture, natural regeneration

1983 – 1989 Partner in Private Industry Belém – PA

- Director of Production

1975 – 1982 Jari Florestal Ltda. Monte Dourado – PA

- Director of Forest Operations

1971 – 1975 Jari Florestal Ltda. Monte Dourado – PA

- General Manager - Forest Management

Forest Operations Manager

André da Silva Dias

Profession: Forester

Function: Manager / Coordinator of Forest Management Model Project and FM/RIL Courses

Birth date: 07-24-1971

Schooling: Graduate Forestry Engineering School (B.Sc.) – University of Sao Paulo
Master of Science (M.Sc.) at CATIE, Costa Rica

Nationality: Brazilian

Native: São Paulo

PROFESSIONAL EXPERIENCE:

2002

F.F.T.

Belém - PA

- Manager / Coordinator of FFT projects in forest management, training and extension
- Coordinator of courses and training of forest management activities and Reduced Impact Logging (RIL)
- Supervisor on operational activities of forest management and RIL (forest inventory, vine cutting, mapping, forest equipment, planning and construction of skid trail, skidding, silvicultural treatment, forest monitoring and forest protection)
- Coordination and supervision of management research and RIL
- Presentation in seminars on environmental education, sustainable forest management and harvesting

1995 – 1999

Saude e Alegria NGO

Santarem - PA

- Coordinator of Environmental and Forest Management
- extensive experience in project management and community forestry.

COURSES:

2002

FSC / IMAFLORA

Manaus - AM

- Forestry Certification

2002

- Site visits to Specific Forest Management visitations, Acre, Amazonas, and Mato Grosso.

Senior Forester

Raniery Vale Neri Branco

Profession: Forester

Function: Forester Operations Supervisor

Birth date: 06-17-1975

Schooling: Graduate Forestry Eng. School (B.Sc.) -
Faculty of Agrarian Sciences of Pará

Nationality: Brazilian

Native: Pará

PROFESSIONAL EXPERIENCE:

2000

F.F.T.

Belém – PA

- Field supervisor of forest management and reduced impact logging techniques for FFT courses.
- Field coordinator of Reduced Impact Logging (RIL) activities, including collection and analysis data, as well as planning of harvesting and execution of pos-harvesting activities (100% Inventory, vine cutting, mapping, forest equipment, planning and construction of forest infra structure, directional felling planning of skid trail, skidding, silvicultural treatments and forest protection)
- Instructor in practical training in planning of operational activities of forest management and RIL
- Participated in the elaboration and development of methodologies of RIL in different forest types in the Brazilian Amazon
- Coordination of the execution of safety programs in situations of risk in RIL
- Presentation in seminars on environmental education, sustainable forest management and harvesting
- Supervision and administration of physic bases (camp), logistic and personnel in forest operations in the Brazilian Amazon
- Evaluation of operational activities of forest management in wood industries with goal of training and offer qualified labor in RIL

COURSES:

2002

IMAZON

Belém - PA

- Training on Geographic Information System (GIS), with focus on the utilization of the software Arc View for mapping the harvesting activities of forest management

2002

Fluency Cursos

Belém - PA

- English Course: Basic

2002

Training Center STHIL

Belém - PA

- Recycle on maintenance and new technology and operations, of heavy equipment

2001

FIEPA/SENAI

Belém - PA

- Methodology in environmental impact evaluation short course

2001

SOTREQ / Caterpillar

Belém - PA

- Training in operation of heavy equipment utilized in forest harvesting operations

2000

Líder informática

Belém - PA

Information system course: Microsoft Excel, Microsoft Access and Microsoft Office

Technician I

Celso dos Santos Couto

Profession: Forester Technician

Function: Harvest Planning specialist

Birth date: 07-28-1971

Schooling: Federal Agro-technological School of
Castanhal - Pará

Nationality: Brazilian

Native: Pará

PROFESSIONAL EXPERIENCE:

1995

F.F.T.

Belém - PA

- Coordinator on planning of operational activities in Reduced Impact Logging (RIL). General knowledge of pre-harvesting and post-harvest activities, such as: Block layout, definition and line cutting, 100% Inventory and Vine cutting, Installation of Permanent Plots, Continuous Inventory on Permanent Plots, Data processing, Design, drawing & map making (Base map, Pre-harvesting map, Harvesting map), Harvest damage evaluation, Harvest waste evaluation, Silvicultural treatments
- Instructor of practical training in planning of operational activities of forest management and RIL
- Experience in developing methodology of RIL in different types of forest of the Brazilian Amazon, with installation of practical models of sustainable forest management
- Manager of operations on risks in forest harvesting, conducting safety programs
- Evaluation of operational activities of forest management in industries of wood with goal of training and offer qualified labor in RIL
- On site study of traditional harvesting practices in the lower Amazon region by small producers and communities.
- 1996 - Technical visits to other institutions and companies that develop forest management activities in the Amazon, aiming the interchange of knowledge and techniques in the Amazon
- 1995 - Participation in seminars, presentations and technical meetings to discuss forest management and RIL in the Amazon

COURSES:

2002

IMAZON

Belém - Para

- GIS basic operations

1999

Government Fire and Rescue Organization

Paragominas - PA

- Training of first aid on forest activities

1998

SOTREQ / Caterpillar

Belém - PA

- Training in operation of heavy equipment utilized in forest harvesting operations

1998

Líder Informática

Belém - Pará

- Information system course: Microsoft Excel, Microsoft Access and Microsoft Office

Technician I

César de Souza Pinheiro

Profession: Forester Technician

Function: Pre-Harvest Planning and Inventory specialist

Birth date: 04-28-1972

Schooling: Federal Agro-technological School of Castanhal - Pará

Nationality: Brazilian

Native: Pará

PROFESSIONAL EXPERIENCE:

1995

F.F.T.

Belém - PA

- Coordinator on pre-harvesting operations of forest management activities in Reduced Impact Harvesting (RIL). General knowledge of 100% Inventory and Vine cutting, Installation of Permanent Plots, Continuous Inventory on Permanent Plots, Data processing, Design, drawing & map making (Base map, Pre-harvesting map, Harvesting map), Harvest damage evaluation, Harvest waste evaluation, Silvicultural treatments
- Ministration of practical training in planning of operational activities of forest management and RIL
- Coordinator of field groups, responsible for forest inventory, vine cutting and data processing
- Experience in developing methodology of RIL in different types of forest of the Brazilian Amazon, with installation of practical models of sustainable forest management
- Evaluation of operational activities of forest management in wood industries with goal of training and offer qualified labor in RIL
- 1998 - Evaluation of operational activities of forest management in wood industries with goal of training and offer qualified labor in RIL
- 1995 - Evaluation of operational activities of forest management in wood industries with goal of training and offer qualified labor in RIL

COURSES:

2002

FSC / IMAFLORA

Manaus - AM

- Forest Certification

2002

Fluency Cursos

Belém - PA

- English Course

2002

IMAZON

Belém - PA

- Training on Geographic Information System (GIS), with focus on software Arc View for mapping

2000

Government Fire and Rescue Organization

Paragominas - PA

- Training of first aid on forest activities

1999

SOTREQ / Caterpillar

Belém - PA

- Training in operation of heavy equipment utilized in forest management

1999

Museu Goeldi – Embrapa

Belem – PA

Dendrology and field tree identification instruction

1998

Líder Informática

Belém - Pará

- Information system course: Microsoft Excel, Microsoft Access and Microsoft Office

Technician I

Marlei Monteiro Nogueira

Profession: Forester Technician

Function: Harvesting and Forest Equipment

Instructor

Birth date: 11-06-1974

Schooling: Federal Agro-technological School of
Castanhal - Pará

Nationality: Brazilian

Native: Pará

PROFESSIONAL EXPERIENCE:

1995

F.F.T.

Belém - PA

- Coordinator on harvesting operations of forest management activities in Reduced Impact Harvesting (RIL). General knowledge of 100% Inventory and Vine cutting, Installation of Permanent Plots, Continuous Inventory on Permanent Plots, Data processing, Design, drawing & map making (Base map, Per-harvesting map, Harvesting map), Harvest damage evaluation, Harvest waste evaluation, Silvicultural treatments
- Ministration of practical training in planning of operational activities of forest management and RIL
- Experience in developing methodology of RIL in different types of forest of the Brazilian Amazon, with installation of practical models of sustainable forest management
- Participate in activities of RIL, with focus in operations of heavy equipment, planning and supervising better utilization of those equipment of forest activities
- Coordinate activities on mapping of forest operations (logistic mapping of tree distribution, infra structure, planning of harvesting and pos-harvesting activities)
- Experience in developing models of RIL in different forest types in the Brazilian Amazon, installing practical models of sustainable forest management
- Evaluation of operational activities of forest management in wood industries with goal of training and offer qualified labor in RIL
- Evaluation of operational activities of forest management in wood industries with goal of training and offer qualified labor in RIL
- Evaluation of operational activities of forest management in wood industries with goal of training and offer qualified labor in RIL

COURSES:

2002

IMAZON

Belém - PA

- Training on Geographic Information System (GIS), with focus on software Arc View for mapping

2002

Fluency Cursos

Belém - PA

- English Course: Basic

2002

Training Center STHIL

Belém - PA

- Recycle on maintenance and new technology and operations, of heavy equipment

2001

Training Center STHIL

São Leopoldo - RS

- Specialized chain saw maintenance course

Technician II

André Maria Oliveira Miranda

Profession: Forester Technician

Function: Pre-Harvest Planning and Inventory specialist

Birth date: 10-13-1978

Identification number: 3498966 Segup/Pa

Schooling: Juscelino Kubitschek de Oliveira" State Agro-industrial School, in Marituba-Pará

Nationality: Brazilian

Native: Pará

PROFESSIONAL EXPERIENCE:

2000

F.F.T.

Belém - PA

- Ministration of practical training in planning of operational activities of forest management
- Coordinator of field groups, responsible for forest inventory
- Experience in developing methodology in different types of forest of the Brazilian Amazon
- Evaluation of operational activities of forest management in wood industries with goal of training and offer qualified labor in RIL

COURSES:

2002

IMAZON

Belém - PA

- Training on Geographic Information System (GIS), with focus on the utilization of the software Arc View for mapping the harvesting activities of forest management

2002

Fluency Cursos

Belém - PA

- English Course

2001

Líder Informática

Belém - Pará

Information system course: Microsoft Excel, Microsoft Access and Microsoft Office

Technician designer & graphics specialist

Emerson Carlos Boulhosa

Profession: Designer
Function: Computer Technician Suport
Birth date: 11-25-1972

Schooling: Grade school completed
Nationality: Brazilian
Native: Pará

PROFESSIONAL EXPERIENCE:

1998	F.F.T.	Belém - PA
<ul style="list-style-type: none">• Experience in TV Broad Casting• Specialized Computer graphic for TV / animation• Develop graphcs for the manuals of TFF		

COURSES

2002	TECNOINF	Belém - PA
<ul style="list-style-type: none">• Computer Technician Suplly		
2002	Fluency Cursos	Belém – PA
<ul style="list-style-type: none">• English Course		
1998	Young Informática	Niterói - RJ
<ul style="list-style-type: none">• 3D Studio R4		

Operator Instructor I

Antônio José de Lima

Profession: Senior skidder operator
Function: Skidder operations instructor
Birth date: 19-03-1960

Schooling: Grade school completed
Nationality: Brazilian
Native: Maranhão

PROFESSIONAL EXPERIENCE:

- 1995 F.F.T. Belém - PA
- Experience in Forest Management with emphasis on reduced impact Logging (RIL)
 - Specialized in planning and layout of skid trails
 - Testing of skidding systems and intensities
 - Instructor on heavy equipment operation and safety
- 1993 IMAZON Paragominas - PA
- On the pilot model in Paragominas as tractor operator (Caterpillar model – 518C)
 - Testing of skidding systems
 - Construction of principal, secondary skid trails and log decks
 - Monitoring on the behavior of the equipment in the forest
 - Maintenance of heavy equipment
 - Training of operation and maintenance with orientation of instructor of SOTREQ
- 1984 – 1990 Jari Florestal Ltda. Monte Dourado – PA
- Skidder Operator
- 1981 – 1983 Sasi - Jari Ltda. Monte Dourado – PA
- Helper of Skidder Operator

COURSES

- 2002 Government Fire and Rescue Organization Paragominas - PA
- Training of first aid on forest activities
- 2000 SOTREQ / CAT Belém - PA
- Annual training on operation and maintenance of heavy equipment
- 1999 F.F.T. Belém - PA
- Course on Forest Management and RIL practices
 - Recycle on maintenance and new technology and operations, of heavy equipment
 - First aid training for forest operations
- 1996 Caterpillar Belém - 80
- Training in heavy equipments operation and maintainance

Operator Instructor I

Manoel Barbosa da Conceição

Profession: Senior tractor operator

Schooling: Grade school completed

Function: Forest infrastructure layout and construction instructor

Nationality: Brazilian

Birth date: 01-11-1947

Native: Pará

PROFESSIONAL EXPERIENCE:

1995

F.F.T.

Belém - PA

- Experience in Forest Management with emphasis on reduced impact logging (RIL)
- Specialized in the construction of principal and secondary roads and log decks for harvesting activities
- Instructor on F. M. operations for more than three years
- Instructor on heavy equipment and safety

1993

IMAZON

Paragominas - PA

- On the pilot model in Paragominas as tractor operator (Caterpillar model D5-C)
- Construction of principal, secondary roads and log decks
- Infrastructure systems development for reduced impact Logginging
- Maintenance of machines
- Training of operation and maintenance with orientation of instructor of SOTREQ

1992 - 1993

CN Road Construction

PA

- Operation on heavy equipment

1970 – 1975 / 1980 – 1990

JARI Celulose S.A.

Monte Dourado - PA

- Operation on heavy equipment
- Construction of principal, secondary skid trails, log decks and general infrastructure

COURSES:

2001

Government Fire and Rescue Organization

Paragominas - PA

- Training of first aid on forest activities

1999

SOTREQ / CAT

PA

- Annual training on operation and maintenance of tractor D6-SR and Loader 924F
- Specialized training on operation of Loader 938F, Skidder 525 and Tractor D6E – SR

Operator Instructor I

Valderez Vieira

Profession: Senior Sawyer
Function: Sawyer Instructor
Birth date: 09-12-1953

Schooling: Grade School completed
Nationality: Brazilian
Native: Ceara

PROFESSIONAL EXPERIENCE:

1997 F.F.T. Belém – PA

- Senior chainsaw and chainsaw maintenance Instructor for FFT FM/RIL courses
- Participation in Sustainable Forest Management activities, with focus on chainsaw operations
- Operation and maintenance of chainsaw
- Operation of safety on chainsaw
- Directional felling
- Instructor of operational practices of chainsaw and safety
- Improvement and development of new techniques of directional felling

1976 - 1997 JARI Celulose S.A. Monte Dourado - PA

- Senior chainsaw operator
- Maintenance and operations of chainsaw
- Specialization in chain filing and maintenance of chainsaws and directional felling
- Productivity and quality programs
- Safety programs

COURSES:

2000 Training Center STHIL São Leopoldo - RS

- Recycle course in chain saw sharpening, filing and operations
- Mechanic and maintenance of chainsaw
- Recycle course and annual training on chainsaw operations

2000 Government Fire and Rescue Organization Paragominas - PA

- Training of first aid on forest activities

1999 F.F.T. PA

- Course on Forest Management and Reduced Impact Logginging

1998 JARI Celulose S.A. Monte Dourado – PA

- General workers safety course
- Chainsaw operations, maintenance and directional felling courses

1998 JARI Celulose S.A. Monte Dourado - PA

- Course in directional felling of natural forest trees
- Course in felling principles and techniques

Operator Instructor II

Arivaldo Almeida de Souza

Profession: Senior Sawyer

Function: Sawyer operations instructor

Birth date: 03-21-1979

Schooling: Grade School completed

Nationality: Brazilian

Native: Para

PROFESSIONAL EXPERIENCE:

2001

F.F.T.

Belém - PA

- Participation in Sustainable Forest Management activities, with focus on chainsaw operations in reduced impact Logging
- Operation and maintenance of chainsaw
- Operation of safety on chainsaw
- Directional felling
- Instructor in practices of chainsaw operations and safety
- Improvement and development of new techniques of directional felling

1997 – 2001

Cikel Brasil Verde S. A.

Paragominas – PA

- Assistant of chainsaw
- Operator of chainsaw

COURSES:

2002

Government Fire and Rescue Organization

Paragominas - PA

- Training of first aid in forest activities

2001

STHIL

São Leopoldo - RS

- Course in chainsaw sharpening and filing of chainsaw
- Maintenance of chainsaw
- Recycle courses and annual training on chainsaw operations

2001

F.F.T.

Ulianópolis - PA

- Course on Forest Management and Reduced Impact Logging

2001

F.F.T.

Belém - PA

- Course on Forest Management and RIL practices
- Recycle on maintenance and new technology of heavy equipment

Operator Instructor II

Gilmar Souza dos Santos

Profession: Forester Technician
Function: Heavy Equipment Operator
Birth date: 04-04-1960
CIC: 123039762-00

Identification number: 4898586 Segup/Pa
Schooling: Grade school completed
Nationality: Brazilian
Native: Pará

PROFESSIONAL EXPERIENCE:

- 2002 F.F.T. Belém - PA
- Operator of heavy equipment utilized in forest harvesting operations in Reduced Impact Harvesting
 - Instructor of practical training in of heavy equipment.
 - Experience in developing methodology in different types of equipment
- 1991-2001 JARI Celulose S.A. Monte Dourado-PA
- Construction of principal, secondary roads and log decks
 - Infrastructure systems development for reduced impact Logging
 - Maintenance of machines

COURSES:

- 2002 SOTREQ / Caterpillar Belém - PA
- Training in operation of heavy equipment utilized in forest harvesting operations

Administrator

Raimundo Sanches Amaral

Profession: Administrator

Function: Administrator

Title: Manager of Administration

Birth date: 03/14/1944

Schooling: First State Grand School of

Vereador Gonçalo Duarte

Technical School for Sciences and Literature

Nationality: Brazilian

Native: Pará

PROFESSIONAL EXPERIENCE:

1994 - F.F.T. Belém - PA

- Administrative Manager for the Tropical Forest Foundation
- Coordinate the administrative services to the office
- Acquisition of all necessary materials, supplies and equipment
- Maintain direct communication with field crews
- Supervise project accounting

1990 – 1993 R.S. Amaral Comercial and Representatives Ltd Brazil

- Commercial representative
- Parts manufacturing supervision
- Vehicle parts and equipment sales

1969 – 1989 Export Firm of Rosewood oil Brazil

- Producer and Exporter of oil of Rosewood oil
- Contact with buyers from of USA, France and Japan
- Responsible for the administration of 100 workers
- Responsible for the acquisition of supply and equipment of maintenance

1964 – 1968 ACREANA S/A
AC

- Supervisor of the latex industry and product derived from plants in Rio Branco – Acre, Brazil
- Responsible for the production and processing of raw materials (rubber) to be sold to Goodyear of Brazil
- Administration and supervision of 56 workers
- Coordinator of the quality control of the factory

COURSES:

1998 Líder Informática Belém – PA

Information system course: Microsoft Excel, Microsoft Access and Microsoft Office

International Promotional Expert

O. Keister Evans

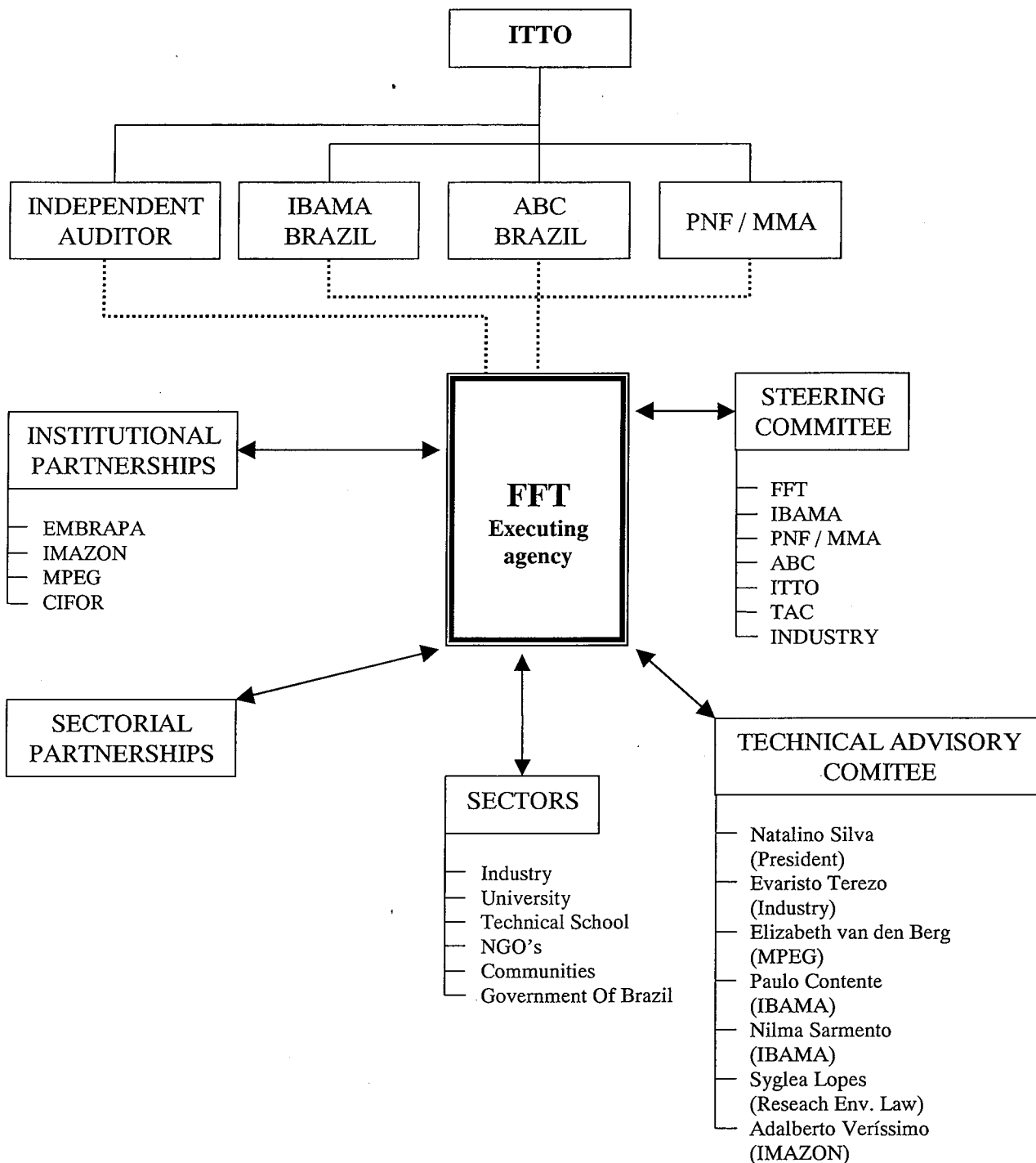
Profession: Executive Director
Function: International Coordinator and
Course Promoter
Birth date: 10/05/1939
CIC: N/A
Identification number: N/A

Schooling: M. Sc. Agronomy at the Virginia
Polytechnic Institute
B. Sc. Forestry at the Virginia
Polytechnic Institute
Nationality: North American
Native: Virginia, USA

PROFESSIONAL EXPERIENCE:

- 1990 - T.F.F. Alexandria, Va. USA
- Executive Director in Alexandria, Virginia
 - Developing together with Project Director and Coordinator course promotional materials
 - Advising officials in relevant government agencies, universities, and NGO's in LAC countries in training opportunity; requesting cooperation and assistance in advertising and promoting courses
 - Organizing and running international events
 - Supervision on production (including design, translation and printing) and distribution of promotional material
 - Supervision on development of informational web page describing the courses
 - Supervision on development and distribution of application material
 - Establishment and maintenance of database of all relevant contacts for courses
- 1997 - World Bank CEO Forum
- Colleague status
- 1976 – 1984 International Wood Products Association Virginia
- Executive Vice President
 - Legislative/Lobbying – Founding member of Joint Industries Group (JIG), an international trade coalition which became a major legislative coalition in Washington
- 1970 – 1976 American Horticultural Society Virginia
- Executive Director
- 1961 – 1964 Virginia Agricultural Extension Service Virginia
- Agricultural Extension Agent for the Virginia Polytechnic Institute and State University

Annex C – Project Organization Chart



Annex D – Number of Courses and Trainees

Table 1. Proposed Number of courses and trainees by year

Course	2003			2004		
	# of courses	# Trainees by course	Total	# of courses	# Trainees by course	Total
TD- Decision maker	2	12	24	2	12	24
GM-Forest manag. University level	2	12	24	2	12	24
MF-Forest manag. Technical level	4	15	60	4	15	60
TC-Felling techniques	3	8	24	3	8	24
TP-Pre harvest techiques	1	8	8	2	8	16
TA- Audit techniques	1	10	10	1	10	10
TE- Off site RIL courses	2	10	20	2	10	20
TCo-Off site Felling techniques	3	10	30	4	8	32
Total # courses	18			20		
Total trainees -on site			150			158
Total trainees -off site			50			52
Total trainees per year			200			210

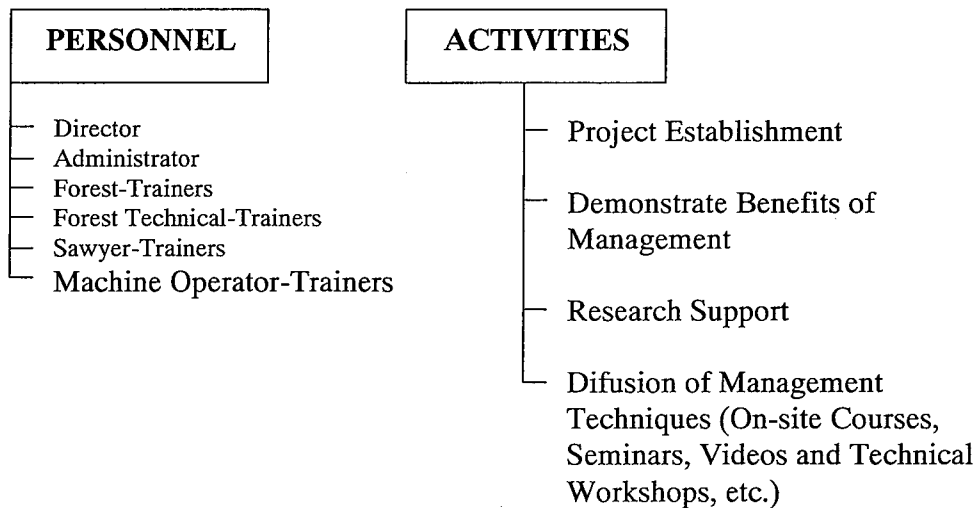


Table 2. Tentative Schedule of Courses for 2003

Month	Day																															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
June				TC					TC								MF															
June								TP																								
June																																
June																																
July		TD						TC						TC (off site)												MF						
July																																
July																																
August				TA						TC (off site)															MF							
August																																
August																																
September									TE (off site)																							
September																																
September																																
October																																
October									TC (off site)																							
October																																
October																																
November										GM																						
November																																
November																																
December																																
December																																
December			TD																													

Annex E – Activity and Subject Hours for each Course

Activities	Courses/subject hours					
	TD	GM	MF	TC	TP	TA
Pre Harvest						
· Block layout, definition and line cutting	2	4	4		5	2
· 100% Inventory and vine cutting	2	8	8		27	2
· Continuous forest inventory	1	4	4			1
· Introduction to data processing	2	4	4		4	2
· GIS for FM planning and map making	2	2	4			2
· Forest infrastructure planning and construction (R&L)	4	4	4			4
Harvest Activities						
· Tree marking	1	2	2			1
· Directional felling and cutting techniques	4	8	8	27		4
· Skid trail planning, mapping, & layout	2	4	4			2
· Log skidding	1	2	2			1
· Log deck operations (grading and scaling)	1	2	2			1
Pos Harvest activities						
· Harvest damage and waste evaluation	2	4	4			4
· Post harvest silvicultural treatments	2	4	4			4
· Infrastructure maintenance	2	4	4			
Complementary activities						
· Worker safety for forestry activities		4	4	2	2	
· First-aid training for forestry activities		8	8	2	2	
· Heavy equipment operation		2	2			
· Chainsaw safety		2	2	4		
· Chainsaw maintenance and use		3	3	5		
· Traditional harvesting methods	2	4	4			
· Conventional-regional logging practices	2	4	4			2
· Use of forestry equipment and instruments		3	3			
· Forest industry visit			4			
Sub Total	32	86	92	40	40	32
Evening lectures and discussions						
Forest protection	1	2	2	1		2
Forest management systems	1	2	2			2
Forest management plans and POAs	2	2	2	1	1	2
Forest management certification	1	2	2			
Forest management costs and benefits	2	2	2	2	1	2
Forest management legislation	2	2	2			
Forestry management and biodiversity	1	2	2		2	2
Visual aids / presentations	0	0	4	2	2	0
Sub Total	10	14	18	6	6	10
Total	42	100	110	46	46	42

Annex F – Training Demand 2002

Entities	Institution	Course	No. of People	Period	Financial Support	Tx.	Location	Confirmed
<i>Universities</i>	Faculty of Agroforestry Sciencies of Pará	GM	30	16-28/Aug	Promanejo-USAID	X	Cauaxi	
	University of Florida	TD	14	16-19/May	USAID		Cauaxi	ok
	University of Amazonas	GM	2			X	Cauaxi	
<i>Agrotechnical Schools</i>	Agrotechnical School Juscelino Kubischek	MF	20	11-24/Aug	Promanejo-USAID	X	Cauaxi	ok
	Agrotechnical School Juscelino Kubischek	MF	20	14-26/Oct	Promanejo	X	Cauaxi	
	Federal Agrotechnical School of Amazonas	MF	22	22Jul-03 Aug	Promanejo-USAID	X	Cauaxi	ok
	Agrotechnical School of Acre	MF	24	17-29/Jun	USAID	X	Cauaxi	ok
	Federal Agrotechnical School of Castanhal	MF	20			X	Cauaxi	
<i>Association of Forestry Engineers</i>	Association of Forestry Engineers of Pará	GM	14			X	Cauaxi	
	Association of Forestry Engineers of Pará	GM	14			X	Cauaxi	
	Association of Forestry Engineers of Pará	GM	14			X	Cauaxi	
	Association of Forestry Engineers of Pará	GM	14			X	Cauaxi	
	Association of Forestry Engineers of Pará	GM	14			X	Cauaxi	
	Association of Forestry Engineers of Pará	GM	15	16-28/Sept	Promanejo	X	Cauaxi	
	Association of Forestry Engineers of Pará	GM	15	4-16/Nov	Promanejo	X	Cauaxi	
	Association of Forestry Engineers of Pará	GM	17			X	Cauaxi	
<i>NGOs</i>	IMAFLORA	GM	15				Cauaxi	
	Pronatura	TC	15				Mato Grosso	
	Pronatura	GM	2			X	Cauaxi	
	LBA	TC	15	10-13/Apr	USAID		Santarém	ok
	Mahogany Project	TO	8				No AC	
	Mahogany Project	MF	2	13-29 Jun	USAID	X	Cauaxi	ok

Entities	Institution	Course	No. of People	Period	Financial Support	Tx.	Location	Confirmed
	Mahogany Project	TCI	15		USAID		No AC	ok
	Mamirauá Institute	TC	3	17-22/Jun	USAID	X	Cauaxi	ok
	Social Ambiental Institute -ISA	TC	10				Xicrin	
<i>Rural Communities</i>	Fase-Gurupá	TC	10				Gurupá	
	Fase-Gurupá	TC	10				Gurupá	
<i>Consultants</i>	Forestry Technician	GM	1			X	Cauaxi	
	Biologist	GM	1			X	Cauaxi	
	Forest Engineer	GM	1			X	Cauaxi	
	Federal Agent for Environmental Programs	GM	1			X	Cauaxi	
	Professor of University of São Paulo	GM	1			X	Cauaxi	
	Forest Engineer /Valec-RJ	GM	1			X	Cauaxi	
	Bank of Amazon	GM	1			X	Cauaxi	
	Forest Engineer	GM	1			X	Cauaxi	
	Forest Engineer	GM	1			X	Cauaxi	
	Ambiental Protection of Amazonia Institute -IPAAM	GM	2			X	Cauaxi	
	Forest Engineer /Muaná Alimentos	GM	1			X	Cauaxi	
Forest Engineer	GM	1			X	Cauaxi		
<i>Associations and Timber Industries</i>	CIKEL	TC	10	6-10/Jun	USAID		Rio Capim	ok
	CIKEL	TC	5	10-14/Jun	USAID		Rio Capim	ok
	CIKEL	TC	10	12-16/Aug	USAID		Rio Capim	ok
	CIKEL	TP	12	16-20/Aug	USAID		Rio Capim	ok
	JURUÁ	TC	6				Breu Branco	
	JURUÁ	TO	1	17-22/Jun	USAID	X	Cauaxi	ok
	GALETTI	TO	3	17-22/Jun	USAID	X	Cauaxi	ok

Entities	Institution	Course	No. of People	Period	Financial Support	Tx.	Location	Confirmed
	GALETTI	TC	8	1-7/Sept			Breu Branco	
	GALETTI	TP	8				Breu Branco	
	GETHAL	TP	18				Manicoré	
	Catarinense	TO	2			X	Tailândia	
	Association of timber industries of Paragominas	TC	8			X	Paragominas	
	Decision Makers	TD	15	8-12/Jul	Promanejo-USAID		Cauaxi	ok
	Decision Makers	TD	15	25-29/Nov	Promanejo-USAID		Cauaxi	
<i>Equipment and machinery Industries</i>	STHIL	TC	8	5-9/Aug	USAID	X	Cauaxi	ok
	STIHL	TC	9			X	Cauaxi	
<i>International</i>	Stir Tropicale	TC	10		French Guyana	X	Cauaxi	
	Stir Tropicale	TC	10		French Guyana	X	Cauaxi	
	Guyana Forestry - Surinam	GM	10		ITTO	X	Cauaxi	
	Guyana Forestry - Surinam	TD	2		ITTO	X	Cauaxi	

TOTAL 557

LEGEND

TO	Operational Techniques
TCI	Infrastructure techniques
MF	Forest Management for agro-technical schools
GM	Forest Management for forestry engineers
TC	Directional Felling Techniques
TD	Decision Makers
TP	Pre Harvesting Techniques
Tx	Application Fees

Annex G – Letters of Support

a. Terms of Agreement Cikel and FFT




TERMO DE COMPROMISSO

Pelo presente Termo, estamos nos Comprometendo, pelo prazo de vinte anos que a área de 1.000ha na Fazenda Rio Capim de propriedade do Grupo Cikel, cedida para a FFT - Fundação Floresta Tropical com o objetivo de pesquisas e treinamento no Manejo de Baixo Impacto, garantindo disponibilidade e Integridade para os fins especificados.

Belém, 29 de Outubro de 1999


CIKEL COMÉRCIO E INDÚSTRIA KEILA S/A
Manoel Pereira Dias


CÂMARA MUNICIPAL
COMISSÃO DE LICITAÇÃO
OFÍCIO DE NOTAS
29 OUT 1999
KEILA DE SOUZA
Presidente

b. Letter of Support from CIFOR



Escritório Regional no Brasil:
Convênio Embrapa - CIFOR
Embrapa Amazônia Oriental, Trav. Dr. Enéas Pinheiro s/n.,
Rua Japurá 764/705, CEP 66.095-100, Belém - PA, Brazil.
Fone / fax: +55 (91) 276-0041 e-mail: cifor@cpaua.embrapa.br

DECLARAÇÃO

O Centro Para Pesquisa Florestal Internacional - CIFOR, sediado em Bogor, Indonésia, foi estabelecido em 1993 como parte integrante do Grupo Consultivo de Pesquisa Agrícola Internacional (CGIAR) em resposta às preocupações globais com as conseqüências sociais, ambientais e econômicas da perda e degradação de florestas.

No Brasil, o CIFOR vem desenvolvendo várias iniciativas para a promoção e adoção do bom manejo florestal na Amazônia Brasileira, tanto em florestas primárias como secundárias (vide anexo). A conjugação de esforços entre a FFT e o CIFOR tem sido fundamental no cumprimento deste desafio, como no caso dos quatro projetos que visam incentivar as práticas de manejo florestal sustentável em escala industrial (tabela 1).

Ademais podemos atestar que a FFT, a partir de seu programa de capacitação e treinamento e da sua experiência de mais de 7 anos na difusão do conhecimento gerado sobre Manejo Florestal e Exploração de Impacto reduzido (MF-EIR), vem formando profissionais aptos a aplicar técnicas de bom manejo florestal na região Amazônica, contribuindo de maneira direta para o alcance dos nossos objetivos.

César Sabogal M.
Coordenador Regional do CIFOR

ANEXO

Projetos em Andamento no Brasil (Novembro de 2002)

Table 1- Projects with focus on the promotion of sustainable forest management practices at the industrial-scale

Title of the project or activity	Main partners and collaborators	Funding	Budget (US\$)	Period of execution
Sustainable management of production forests at the commercial-scale in the Brazilian Amazon	- Embrapa/CIFOR - FFT - Juruá Florestal Ltda - CIKEL Brasil Verde - IBAMA	Embrapa/CIFOR +	[250,000]	1999 - 2002
		USAID ITTO	750,000	2003 - 2004
Development of a C&I-based prototype for analysis and auditing of SFM projects	- Embrapa/CIFOR - IBAMA - FFT - Partner timber enterprises	MMA/ProManejo	40,000	2002 - 2004 (21 months)
Cost accounting and efficiency of production in the timber industry of the Brazilian Amazon	- IPAM - Embrapa/CIFOR - FFT - Virginia Tech (VPI&SU)	BASA MMA/ProManejo?	30,000	2002 - 2003 (Phase I)
Constraints and opportunities for the adoption of good forest management practices in the Amazon (Brazil, Bolivia, Peru)	In Brazil: - CIFOR - IMAZON - Embrapa - FFT	USAID	[70,000]	2001 - 2002
		MMA/ProManejo?	[80,000]	2003

Table 2 - Projects with focus on the promotion of sustainable forest management for communities and small and medium farmers

Title of the project or activity	Main partners and collaborators	Funding	Budget (US\$)	Period of execution
Farmer management of secondary forests in Northeastern Para State	- Embrapa/CIFOR - FCAP - Local associations	Phase I: IDB	[80,000]	1997 - 1999
		Phase II: PRODETAB	[220,000]	1999 - 2001
		Phase III: PPG-7/ ProManejo	[200,000]	2001 - 2003
Collaborative management of forest resources and strengthening of local associations	- CIFOR - FCAP - Municipality of Muana	CIFOR	20,000	2000 - 2002
Economic opportunities from non-timber forest products	- CIFOR - Mulheres da Mata	USAID	[60,000]	2001 - 2002
Conservation of biodiversity to improve local incomes in the Brazilian Amazon	- CIFOR - IMAZON - Embrapa	Overbrook Foundation	[70,000]	2002 - 2004
Diagnostic of silvicultural practices in the Brazilian Amazon	- Embrapa (4 centers in the Amazon) - University of Mato Grosso	Embrapa/CIFOR	[130,000]	2001 - 2003

Escritório Regional do CIFOR

Embrapa Amazônia Oriental, Trav. Dr. Enéas Pinheiro s/n, CEP 66.095-100, Belém - PA, Brazil

C.

CIFOR - Centro para Pesquisa Florestal Internacional

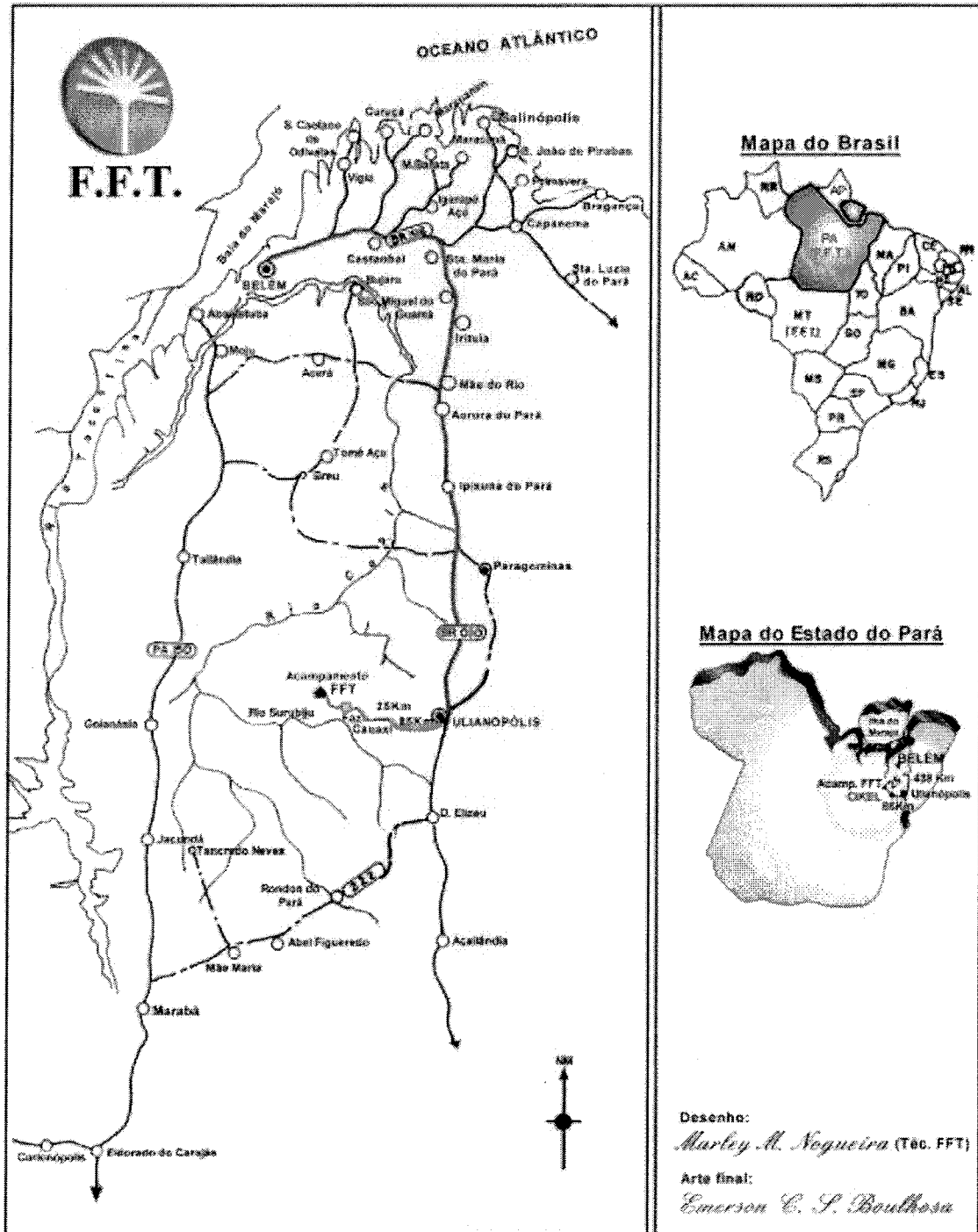
Table 3- Projects with focus on providing information and advice for public policies for the sustainable development of the Amazon based in the use of the forest resources

Title of the project or activity	Main partners and collaborators	Funding	Budget (US\$)	Period of execution
Impact of the political-administrative decentralization on the use of forest resources in eight municipalities of the Brazilian Amazon	<ul style="list-style-type: none"> - CIFOR - IPAM - Fundação Norte-Riograndense de Pesquisa e Cultura 	DFID	??	2001 - 2002
Infrastructure, regional development and livestock in the Brazilian Amazon	<ul style="list-style-type: none"> - CIRAD - Embrapa - CIFOR - University of Natal - PESACRE - Univ. of Florida - AMAZON 	CIRAD	??	2000 - 2003
Regional development, livestock and deforestation in Para State	<ul style="list-style-type: none"> - CIFOR - IPAM - CIRAD - Embrapa - Clark University 	CIRAD	??	2000 - 2003

Escritório Regional do CIFOR

Embrapa Amazônia Oriental, Trav. Dr. Lucius Pinheiro s/n, CEP 66.095-100, Belém - PA, Brazil

Annex H – Location map of training area



Annex I – Letter of commitment from CIKEL authorizing use of property



Belém, february 27, 2003.

*Sr. Johan C. Zweede
Executive Director
Fundação Florestal Tropical
Travessa 14 de Abril, 1464 – São Brás
Belém, Pará, Brazil*

Dear Mr. Zweede,

In regards to the proposal (PD 206/03 F) which the Fundação Floresta Tropical submitted to the International Timber Trade Organization, which is to “develop human resources in sustainable forest management and reduced impact logging in the Brazilian Amazon”, Cikel Brasil Verde S/A will provide counterpart support for the proposed training activities to the extent we have done during the past 7 years. This will include providing the land and forest resources at the Cauaxi and Rio Capim properties, for the years of 2003 through 2005 in order to carry out the proposed project.

Sincerely yours,

P/P
Manoel Pereira Dias
MANOEL PEREIRA DIAS
General Director
Cikel Brasil Verde S/A

Annex J – Proposal for Permanent Training Center

PROJECT PROPOSAL

INSTITUTO FLORESTA TROPICAL

Project Proposal 2002-2006

Prepared by

**Fundação Floresta Tropical
1464, 14 de Abril, São Brás
Belém, Pará
Brazil**

Revision 1.1

December, 2001

ACKNOWLEDGMENTS

We would like to state our special appreciation to the United States Agency for International Development (USAID) and the USDA Forest Service Office of International Programs whom, in 2001, financed this proposal and business plan for IFT, conceived by FFT and its technical advisory committee two years ago. The proposal and business plan was a collaborative effort by the Fundação Floresta Tropical and following consultants Dr. Frank Merry, Geoffrey Blate, and Dr. Jose Natalino Silva.

FFT would like to also thank Adalberto Verissimo, and Rodrigo Pereira Junior for their effort in preparing some of the data and reviewing the documents. In addition we appreciate the effort of both past and present FFT employees whose dedication, in establishing the FM-RIL models and training programs, was of utmost importance.

We would also like to acknowledge the widespread support that TFF-FFT has received over the last seven years for its forest management models and training program from the following institutions. Simply put, FFT could not have functioned without this support.

USAID - Brazil Office, Latin America and Caribbean Office, and Global Bureau.
USDA Forest Service – International Programs
ITTO – International Tropical Timber Organization
Caterpillar do Brasil Ltda.
Pro-Manejo – PP-G7 – KfW – GTZ
FORD Foundation – Brazil
TINKER-Foundation - USA
FCO – Foreign and Commonwealth Office – British Embassy
IBAMA – Brazilian Institute for the Environment and Natural Resources
WWF- SUNY – IIEB – World Wildlife Fund - State University of New York – Int.
Educ. Inst. of Brazil
David and Lucile Packard Foundation USA
Cikel Brasil Verde S.A.
John D and Catherine T. MacArthur Foundation – USA
SUMMIT Foundation USA
The World Bank – The State of Mato Grosso – FEMA – PRODEAGRO
EMBRAPA - Brazilian Corporation for Agricultural Research
IITF – International Institute of Tropical Forestry
Alfred Jurzykowski Foundation USA
JARCEL Celulose S.A.
CIFOR – Center for International Forest Research
IMAZON – Institute of Man and Environment of Amazon
GETHAL Amazonas S.A.
IPAM – Institute of Environmental Research in the Amazon
Andreas STIHL Moto-Serras Ltda.
JURUÁ FLORESTAL Ltda.

Johan C. Zweede
Director – FFT

EXECUTIVE SUMMARY

This document constitutes a proposal to formally establish a forest management center, hereafter named Instituto Floresta Tropical (IFT). The IFT will provide the forest sector with the human resources it needs to conduct good forest management. In addition, IFT will continually research, develop, and teach new techniques in all aspects of forest management. The rationale for establishing IFT, rather than simply expanding Fundação Floresta Tropical's current program is elucidated below. In addition, a business plan for IFT is attached. The business plan details the scope and cost of IFT's proposed activities as well as the funding that will be required to bridge FFT's program until IFT is formally established.

Sustainable development implies a balance between conservation, social, and economic objectives through the rational use of renewable resources. The forests of the Amazon are such a resource and present such an opportunity. The sustainable use of the region's forests depends, however, on the application of appropriate systems and technologies by trained people. At present, the region's human resources cannot adequately fulfill this criterion. The forest management training center proposed in this document will provide an institutionalized approach to resolving this problem.

The Amazon's forest resources are indeed vast. The five million km² of the Brazilian Amazon alone are estimated to have a commercial timber stock of over 60 million m³ and several other Amazon Basin countries have similar resources. Thus, forestry constitutes an important land use and development option, and if practiced well, may become an integral part of conservation strategies for the Amazon. Until recently, however, the forest industry has had a negative association with conservation and has undertaken extractive rather than sustainable forestry practices. Although this situation is slowly changing, the opportunity to accelerate the transition from extractivism to forest management has never been better.

A revolution is underway in tropical forestry. Through the efforts of a wide variety of forest stakeholders – including government agencies, the scientific and conservation communities, educational institutions, international donors, and the private sector – Amazon forests are no longer viewed as an impediment to economic development but rather the source. A growing number of stakeholders are learning about forest management (FM). What they hear is that although no single system exists for managing the wide diversity of Amazon forests for timber production, minimizing harvesting impacts is a prerequisite for sustained yields nearly everywhere across the Basin. With this point in mind, several companies and communities are starting to implement reduced impact logging (RIL) practices, and a growing number want to certify their operations. Unfortunately, however, knowledge about FM-RIL is not universal and although many producers want to improve their management practices, most lack the capacity to do so.

Today, perhaps the greatest barrier facing the Amazon forest sector is the lack of trained and qualified people to implement FM-RIL. The sheer size and diversity of the area, complex array of types and sizes of producers, and the need to target all levels and all stakeholders has made the spread of knowledge about FM-RIL a complicated task. Nevertheless, several successful programs have begun to tackle this problem. One of these is the FM-RIL program run by the Fundação Floresta Tropical (FFT).

The FFT is the Brazilian subsidiary of the Tropical Forest Foundation, a U.S.-based non-governmental organization. FFT's principal goal is to accelerate the adoption of FM-RIL practices by all types of producers in the Brazilian Amazon. To achieve this goal, FFT involves a variety of stakeholders in a program that integrates demonstration, training and practical research.

FFT's training program, in particular, is unique because it embraces all facets of forest management and production from the basic labor tasks to the oversight of an integrated forestry

operation and from small individual or community operations to large-scale industrial production. The training consists of practical, on-site short courses tailored to different target groups (e.g., from sawyers and operators to technicians and foresters, and from land owners to community leaders and decision makers).

FFT's training program has helped catalyze a strong and burgeoning interest in FM-RIL across the Brazilian Amazon. In the last five years, the number of trainees – foresters, trainers, technicians, sawyers, decision-makers, and other people in the forestry sector – graduating annually from the FFT program increased dramatically (from less than 10 to nearly 400). Today, the demand for training, technical assistance, and information exceeds FFT's capacity.

The FFT program, though successful to date, has been dependent on annual grants. This dependence has injected an unacceptable level of uncertainty into the program. The best option – based on consensus from numerous stakeholder meetings – for meeting the growing demand for FM-RIL training and simultaneously removing the tenuous nature of the FFT program is to create a permanent forest management training center for the Amazon.

The IFT will be a Brazilian NGO that works in concert with a variety of partners including key government agencies, other NGOs, and educational and research institutions to provide training, research, and extension in forest management for all countries in the Amazon. The training program, which will consist of on- and off-site courses as well as internships, will target all levels of forestry professionals (from operators to decision-makers) from all sectors (industry, communities, government, NGOs, etc.). Extension activities, such as seminars, workshops and lectures, will raise awareness about the benefits of FM-RIL. In the process, extension will build demand for training and provide feedback critical to the development of better FM-RIL systems.

IFT will strive to develop FM systems that meet the needs of all types of forestry operations including small producers, communities, and mid-size and large companies. Initially the focus will be on FM-RIL, but IFT will quickly diversify its services according to the changing needs and opportunities of the region. In particular, IFT will expand its training, research, and extension activities to address industrial aspects of forestry such as value added processing and wood marketing. Likewise, IFT will eventually broaden its scope to include non-timber forest products and extractive reserves. Ultimately, IFT will aim to provide a variety of services pertaining to all aspects of forest management in the Amazon.

This diversification will require the active involvement of the partners mentioned above as well as the participation of a coalition of leaders representing a wide variety of stakeholders. To achieve this objective, IFT will have a Board of Directors comprising individuals from Federal and State governments, the private sector, environmental NGOs, and educational institutions. To ensure involvement of other countries in the region, IFT will strive to add representatives from key institutions in other Amazon Basin countries to its Board of Directors. This wide assortment of Directors will infuse IFT with the ideas and vision it needs to be successful.

A fundamental operating principle for IFT will be to achieve long-term financial stability. To become established, IFT will require financing from both national and international donors. During a five-year transition period, IFT will rely less on donor funding by generating revenues from course fees, research grants, and the sale of forest products. Despite the increasing reliance on IFT generated revenues, financial projections detailed in the Business Plan indicate that this income will not cover all of IFT's costs. Indeed, even after its fourth year of operation, IFT will need about \$400,000 because of investments in highly qualified trainers and support staff. Self-sustainability would be possible, however, with an endowment of about \$5 million. With or without the endowment, IFT will forge partnerships with private and public institutions to help cover operational expenses and course costs.

The IFT will be established in 2002, begin operating in 2003, and grow to full capacity –training about 450 people per year – by 2006. Because IFT's operations will only start in 2003, 2002 will be a transitional year during which FFT will continue its current program. Bridging FFT's program will maintain interest in FM-RIL and ensure a smooth transition from FFT to IFT. The bridging program will extend from December 2001 until December 2002 and require about \$582,000 in donor support, some of which is already committed.

In addition to bridging FFT's FM-RIL program, several other key steps must be accomplished to successfully establishment IFT. The most critical step is to identify potential donors and sponsors who are willing to cover construction costs for the IFT training center – estimated at about \$350,000 – and IFT's development costs – ranging from about \$200,000 to \$400,000 per year – during its building phase. Other key steps include (a) obtaining a commitment for active participation by key agencies of the Brazilian government; (b) formalizing partnerships with other stakeholders; (c) finalizing selection of an appropriate site for the training center; and (d) legally establishing IFT as a Brazilian NGO. These last four activities must be completed by June 2002 for IFT to be operational in 2003

PROJECT PROPOSAL: ESTABLISHING IFT

INTRODUCTION

This document constitutes a proposal to formally establish a forest management center, hereafter named Instituto Floresta Tropical (IFT). The IFT will provide the forest sector with the human resources it needs to conduct good forest management. In addition, IFT will continually research, develop, and teach new techniques in all aspects of forest management. The rationale for establishing IFT, rather than simply expanding Fundação Floresta Tropical's current program is elucidated below. In addition, a business plan for IFT is attached. The business plan details the scope and cost of IFT's proposed activities as well as the funding that will be required to bridge FFT's program until IFT is formally established.

1. PROBLEM DEFINITION

The Amazon Basin is the most diverse terrestrial region on earth. It is a storehouse of biodiversity and provides untold ecological services at local, regional, and global scales. This vast area, comprising 9 countries, is also home to millions of people, many of whom rely on the Amazon's forests and other natural resources for their livelihoods.

The Brazilian Amazon alone encompasses 5 million Km² and harbors 85 percent of Brazil's remaining natural forests. A recent study¹⁶ concluded that 83 percent of the remaining upland area of the Brazilian Amazon is suitable for forestry, with a commercial timber stock of about 60 billion cubic meters¹⁷. The remaining Amazon Basin countries have smaller forest areas, but forestry plays an equally important role in land use throughout the region. Therefore, the scope of this proposal is international and includes the entire Basin area.

Considering its economic potential and the large area it affects, the forest sector –in conjunction with other land uses – should play an integral role in strategies to conserve the Amazon's environmental resources. This potential will only be realized, however, if producers¹⁸ improve their practices. A growing number of producers have already begun to adopt better forest management practices. There are currently 278,000 ha of FSC certified¹⁹ forests in Brazil and 467,000 ha under certification review. Two years ago there were no FSC certified forests in Brazil. The area certified by FSC in Bolivia is even greater – nearly 1 million hectares. Most forests across the Amazon, however, are still being logged poorly and without regard to their long-term productivity and diversity.

In recognition of this problem, several Amazon countries have recently instituted new national policies supporting the continued development of the forest sector. The Brazilian government,

¹⁶ Schneider *et al.* 2000. *Amazônia Sustentável: limitantes e oportunidades para o desenvolvimento rural*, is available from the World Bank and IMAZON. According to this study, about 75 percent of the Brazilian Amazon remains forested and 15 percent has been cleared; an unknown proportion has been burned.

¹⁷ The forest sector of the Brazilian Amazon employs more than half a million people and generates annual revenues of about 2.2 billion dollars. About 90 percent of Brazil's hardwood production comes from the Amazon and nearly all of that wood (~ 34 million m³ annually) is consumed domestically.

¹⁸ 'Producers' refers to people engaged in forest harvesting and milling activities.

¹⁹ Forest certification refers to third party verification that a company's management practices are moving toward sustainability. The Forest Stewardship Council (FSC) accredits third party certifiers that use FSC criteria and indicators when they audit companies.

for example, wants to increase the area of well-managed forests and certified timber on world markets by 10 percent in the next few years. In addition, the government launched a new National Forest Program (PNF) in September 2000. The PNF aims to commit more than 200,000 Km² of Amazon forest to sustained timber production and to reforest 600 thousand ha per year. The PNF also calls for 500,000 Km² under concessions by the year 2010. If these targets are to be met, it will require trained personnel.

The new legislation and technical guidelines²⁰ are designed to promote sustainable use of the forest resource²¹. Coupled with a growing acceptance of the need for improved management by the forest industry these national programs have created a shortage of qualified forestry practitioners in all countries in the region. This shortfall exists across all levels of practitioners – from woodsmen to forest managers – and among all stakeholders and producers. This lack of trained people constitutes one of the greatest obstacles to the adoption of good forest management across the Amazon. Indeed, it leaves the forest sector with limited capacity to comply with government regulations.

²⁰ IBAMA recently published general technical guidelines for the appropriate management of upland forests in the Brazilian Amazon.

²¹ In 1995, EMBRAPA conducted a forest management survey in Paragominas, and found that no producers had effective management plans.

ADDRESSING THE PROBLEM

Forest Management and Reduced Impact Logging

Forest management (FM) is a broad concept the meaning of which depends on the objectives of the forest owner. The term forest management is not reserved exclusively for timber harvesting. It includes a broad array of forest-related activities including wildlife management, extractive reserves, and recreation. Across much of the Amazon, however, the principal FM objective is the sustainable production of wood products. In this case, forest managers need to consider the silvicultural requirements that will yield sustained timber volumes without compromising forest quality or composition over time²².

Although any harvest will alter the forest to some extent, it is clear that minimizing physical impacts is an important first step in the goal of sustainable production. Reduced-impact logging (RIL) provides standards for mitigating the silvicultural activity that causes the greatest ecological impact. As such, RIL is considered a necessary step toward achieving sustainable forest management. RIL is an essential component of forest management where the principal objective is to provide a sustained yield of wood products while simultaneously maintaining native species diversity and key ecological processes and services.

Basic Tenets of RIL

- Proper planning
- Use of proper technology
- Pre-harvest inventory
- Vine cutting where needed
- Directional felling
- Proper skidding
- Trained workforce
- Qualified supervision

Information about how to harvest trees with minimum damage exists. FM-RIL guidelines are available through ITTO, FAO, government agencies and NGOs. In addition, IMAZON, EMBRAPA²³, and the Fundação Floresta Tropical have field models in Brazil that demonstrate the improvements of FM-RIL practices over conventional logging. Specifically, FM-RIL methods reduce soil and canopy damage, protect future crop trees, and decrease waste by at least 50 percent. The Fundação Floresta Tropical has demonstrated how these ecological benefits can be obtained without an increase in costs²⁴. In addition to its ecological, silvicultural and financial benefits, FM-RIL also can potentially yield significant social benefits.

Social Benefits of FM-RIL Adoption

Adoption of FM-RIL practices changes the cost structure for producers in a socially beneficial way. Compared to conventional logging, FM-RIL increases the proportion of total costs (per cubic meter of timber harvested) spent on salaries and additional labor by about 31% (see Holmes et al. 2000). In conventional logging, that 31% is spent instead on equipment use and maintenance and fuel costs due to inefficiencies. In addition, FM-RIL operations use 64% more workers, many of whom possess special skills and training, than conventional logging operations. The dollars spent on wages stay in the Amazon region, which helps strengthen the local and regional economies. In conventional operations in contrast, the beneficiaries of producer expenses for equipment and fuel are in urban centers far from the Amazon or overseas.

²² Activities away from the forest can also affect profitability and should be considered in management plans. For example, wood processing, wood marketing, and business development.

²³ IMAZON is the Amazon Institute for People and the Environment; EMBRAPA is the Brazilian Corporation for Agricultural Research

²⁴ See Holmes et al, 2000. *Financial Costs and Benefits of Reduced-Impact Logging in the Eastern Amazon*, which is available in short and long versions at www.fft.org.br and www.fs.fed.us/global.

Another socially beneficial aspect of FM-RIL compared to conventional logging and most other land uses is that FM-RIL requires a much larger range of skills. In conventional logging, a person is a laborer, a machine operator or a crew boss; seldom is there a defined career path that allows individuals to improve their status through experience and training. In FM-RIL in contrast, various career plans are feasible even for an unskilled laborer. For example, a person can grow from a field laborer, through the various ranks of qualified labor and then to equipment operator.

Aside from the obvious benefits to rural workers, an important consequence of the career paths and various skills associated with FM-RIL is that people trained in forestry will remain in rural areas rather than moving to cities where they might remain poor and jobless. In addition to potential careers, FM-RIL significantly upgrades attention to safety and health considerations, which is of critical importance if workers are to remain in rural settings. Given that most cities in Amazon Basin countries are already overpopulated and have limited capacity to absorb large influxes of rural laborers, this potential social benefit of FM-RIL should be considered in rural development policies

Fundação Floresta Tropical – Catalyzing Interest in FM-RIL

In 1994, the Tropical Forest Foundation (TFF), a U.S. based non-profit organization dedicated to the achievement of sustainable forest management in the tropics, established its FM-RIL program in the Brazilian Amazon. Building on IMAZON's research that demonstrated the technical feasibility and financial viability of FM-RIL, TFF's objective was to accelerate the adoption of FM-RIL by producers across the Amazon. In 1995, TFF created a subsidiary, the Fundação Floresta Tropical (FFT), to implement this program. The FM-RIL program integrates practical training with demonstration models and research. It also involves a broad coalition of stakeholders including private landowners, industry, the conservation community, government agencies, and donors.

By 1997, FFT had established five FM-RIL model sites and trained a core crew of foresters, technicians, and operators. With funds from USAID and the World Bank, the FFT crew trained other forestry practitioners through on-site field courses. In 1998, FFT began a 2-year ITTO-funded project that eventually trained 138 foresters, trainers, and technicians from Brazil, Guyana, Suriname, Colombia, Ecuador, Peru, Venezuela, and Ghana. Currently, FFT is conducting more training courses with funds from ProManejo²⁵. These courses are due to end in November 2001.

TFF/FFT Accomplishments

- 6 years of practical training experience
- 1,000 people trained
- \$5 million in international grants received
- 7 years of FM-RIL model development
- 12 practical FM-RIL manuals published
- Helped IBAMA improve FM regulations

To date, funding to pay for the costs incurred by FFT has been through the generous assistance of international donors. TFF and FFT have raised over 5 million dollars from international donors in a combined effort to improve forest management in the Brazilian Amazon.

The practical training offered by FFT, along with many other related efforts, has catalyzed a strong interest in forest management and created a demand for skilled forestry personnel at all

²⁵ ProManejo is a project of IBAMA that administers the promising initiatives project of the Pilot Program to Conserve the Brazilian Amazon, which receives its funding from G7 donors.

levels. In the past 5 years, FFT has received an increasing number of requests for qualified people from all sectors as well as from all types of producers (Figure 1).

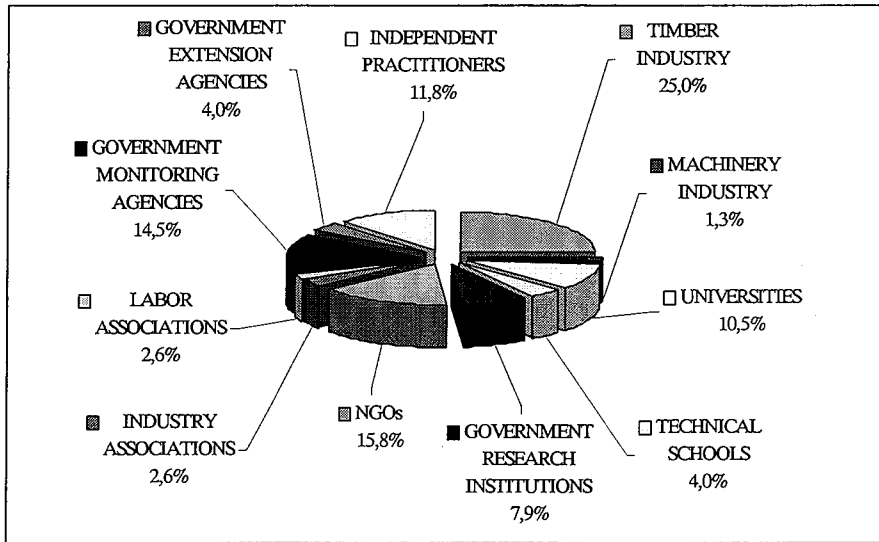


Figure 1. Stakeholders participating in FFT FM-RIL training program (1996-1999; percent of total people trained).

FFT's program expanded during this period to try to address the human resources dilemma of the forest sector. Between 1996 and 2001 the number of trainees graduating from the FFT

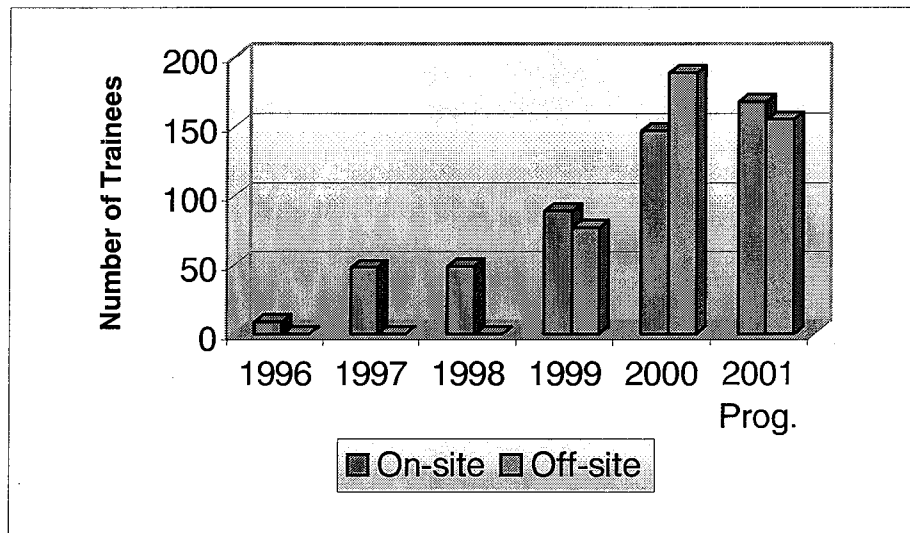


Figure 2. Participants in FFT's on- and off-site FM-RIL training courses and extension activities (1996-2000).

program increased dramatically (Figure 2). Importantly, all of the trainees found forestry work immediately.

As Figures 1 and 2 suggest, FFT has just begun to fulfill the large demand for trained forestry personnel in Brazil let alone other countries in the region. Unfortunately, the FFT courses have so far been the only source of trained field personnel in Brazil and the increasing demand is rapidly overwhelming FFT's current training capacity.

In recognition that the shortage of trained personnel will continue across the Amazon for several years to come, FFT and collaborators began discussing ways to solve this problem. In mid-1999, participants in a small workshop and various technical meetings agreed that training efforts must move beyond short-term projects with annual funding from international donors to a longer-term sustainable program. The idea of establishing a permanent forest management training center for the Amazon, dedicated to the hands-on training of FM-RIL, emerged from these discussions. FFT has continued to meet with various stakeholders including key

government agencies, the business sector, environmental NGOs, traditional communities, and forestry researchers. The concept of the training center has received universal support.

INSTITUTO FLORESTA TROPICAL – OBJECTIVES AND RATIONALE

The idea of an Amazonian forestry training center is not new – FAO established a center in the mid-1950s – but the timing now is better. With stronger government policies and more vigilant enforcement, there is now greater regulatory support than ever before in the Amazon. These improvements in government regulations, along with a growing awareness of the multiple values of the region's forests, have stimulated interest in FM-RIL across a wide spectrum of stakeholders in all the Amazon Basin countries. Training that targets landowners, community leaders, and decision-makers has become an important component of FFT's current FM-RIL program.

Forest sector growth has already motivated several universities and technical schools to improve their curricula. IFT courses will complement these curricula and IFT will eventually become an integrated part of a broader program for foresters, technicians, and other practitioners who receive formal education at established institutions. IFT will provide a practical training component so foresters can apply FM-RIL. In addition, IFT will provide similar practical training for operators and other forest sector employees who do not necessarily receive higher education.

The IFT will be an independent Brazilian NGO that provides training, research, and extension in forestry for all countries in the Amazon. Although IFT will initially focus its efforts in Brazil, the goal is to quickly expand to include stakeholders from the other countries in the region. IFT will have a Board of Directors representing a range of stakeholders including Federal and State government, the private sector,

environmental NGOs, and educational institutions. To ensure involvement of other countries in the region, IFT will strive to add representatives from key institutions in other Amazon Basin countries to the Board. In addition, it is hoped that TFF will provide a member to serve on the

Advantages of Establishing IFT

- Creation of a Brazilian institution to cope with local and regional issues.
- Greater participation of the Amazonian forestry sector.
- Greater interest in importance of forest management in the Amazon.
- Help achieve the PNF call for training.
- Contribute to the ITTO 2000 forest management goals
- Greater operational flexibility.
- Access to new sources of financing.

IFT Objectives

- Improve forest management in the Amazon.
- Build capacity of stakeholders to adopt forest management and obtain forest certification.
- Support the long-term rational use of forest resources by all stakeholders, including forest-based communities.
- Provide people with skills to improve their employment opportunities.
- Expand to address the industrial component of the wood products industry.
- Expand to include other FM activities including non-timber forest products, ecotourism, etc.
- Improve FM-RIL models and techniques through applied research

Board to provide an international perspective. This wide assortment of Directors will infuse IFT with the ideas and vision it needs to be successful.

Establishing IFT will be a costly and time-consuming endeavor. It will, however, eventually be the most effective means of providing practical training to current and future generations of forestry practitioners in the Amazon. The rationale for undertaking this effort can be summarized with three main points--financial stability, funding flexibility, and increased training capacity.

First, the IFT will eventually become financially stable, with decreasing reliance on donor support and greater incidence of long-term partnerships with Brazilian educational funding agencies (see Figure 3 below; also see Business Plan for details). The current practice of teaching a series of courses that are funded on an annual basis is not sustainable. Furthermore, reliance on funds obtained through annually proposed projects is too tenuous.

The second reason for establishing IFT also relates to funding and flexibility. At present, FFT is a subsidiary of the Tropical Forest Foundation. Although this relationship has proved effective in raising funds, it also places certain limits on the kinds and sources of funds FFT may receive. For example, FFT may not receive funds directly from a variety of international donors that only finance Brazilian NGOs. In addition, FFT is not eligible for funding from various Brazilian governmental agencies that finance training programs such as the one envisioned for IFT. We anticipate that agencies like SENAI and SENAR²⁶ will become formal partners and help subsidize training for numerous stakeholders. As a Brazilian NGO, IFT can make long-term partnerships with governmental agencies and other key institutions without losing its flexibility.

Third, the programmatic needs have grown far beyond FFT's capacity. Simply stated, FFT needs support and direct involvement from existing institutions in Brazil and other Amazonian countries with expertise in different aspects of FM. To date, FFT has relied on informal arrangements with key individuals in various agencies. These individuals participate in FFT's training courses but the association is informal, and expensive. In some cases, FFT must pay experts from other institutions as independent consultants. These formal partnerships will be especially important as IFT diversifies its services and broadens its target audience beyond stakeholders principally interested in management for timber production. In Brazil for example, the direct involvement of key partners such as IBAMA, EMBRAPA, FCAP, Museu Goeldi, AMAZON, IPAM²⁷, and others, will help IFT improve forest management in the broadest sense far more effectively than through individual efforts or informal arrangements.

The IFT's principal goal is to improve forest management across the Amazon with a view toward its long-term conservation. IFT will focus on building the capacity of people to adopt FM practices. IFT will also collaborate with partners to continually upgrade FM-RIL models and techniques through applied research. This research will be critical to help answer the questions that still exist related to all aspects of tropical forest management. Ultimately, this research, along with training and extension, will help accelerate the adoption of good FM across the Amazon. Finally, because of the tremendous diversity of the region, IFT will aim to involve a broad coalition of stakeholders many of whom will become active partners in IFT's programs.

Although IFT will initially focus on accelerating the adoption of FM-RIL practices, it will eventually diversify its services and activities according to the changing needs and opportunities in the region. In particular, IFT will expand its capacity over time to provide training to stakeholders with disparate FM objectives. It is already clear that IFT will need to develop

²⁶ SENAI is the National Service for Industrial Apprenticeship and SENAR is the National Service for Rural Apprenticeship.

²⁷ IPAM is the Instituto de Pesquisa Ambiental da Amazônia.

training modules that address especially value added processing and wood marketing. Similarly, IFT will need training modules pertinent to non-timber forest products and extractive reserves. Ultimately, IFT will aim to provide a variety of services pertaining to all aspects of forest management in the Amazon.

IFT Establishment Strategy and Financial Requirements

The IFT will be established and grow to full capacity over a five year period encompassing the years 2002 through 2006. Accomplishing this goal will require substantial effort and support from partners and donors. It will also hinge on achieving several interim objectives that together comprise the IFT establishment strategy.

The first step in this strategy, obtaining the Government of Brazil's (GoB) official endorsement for IFT, is vital. The scale of training required to improve FM in the Amazon is so great that IFT will need to rely on partners. FFT will seek support and formal partnerships for the IFT with government agencies including MMA, IBAMA, SENAI, and SENAR. For IFT to be successful, these agencies must become active partners who directly participate in IFT's activities. Obtaining support from IBAMA will be especially important because it regulates forestry activities and because it is keen to develop and improve the forest sector in the Amazon. IBAMA's support will also be critical for overcoming obstacles pertaining to site selection.

IFT Establishment Strategy

- Meet with key stakeholders to (1) Obtain GoB endorsement (2) Finalize site selection (3) Identify donors & sponsors and obtain support (4) Form operating partnerships
- Revise business plan based on final site selection
- Obtain funding for bridging FFT's program in order to: (1) Maintain interest in FM-RIL (2) Support on going training demands (3) Maintain training cadre (2) Ensure smooth transition from FFT to IFT
- Legally establish IFT as a Brazilian NGO
- Construct IFT training center and facilities
- Initiate IFT activities with transfer of FFT personnel, capital assets and training material.

As explained in detail in the Business Plan, selecting an adequate training site is critical for the success and financial independence of IFT. The site must have forest that is suitable for a wide variety of FM objectives including recreation, non-timber products, and wood production. The forest must be representative of the range of conditions present in other forests in the region and have sufficient volumes of commercial species. The IFT forest must also have adequate access-critical for logistics and for marketing. Because of the importance of site selection in the overall IFT establishment strategy, FFT will continue meeting with stakeholders to finalize this process during the first quarter of 2002. Stakeholder meetings will also help identify potential donors and formalize partnerships.

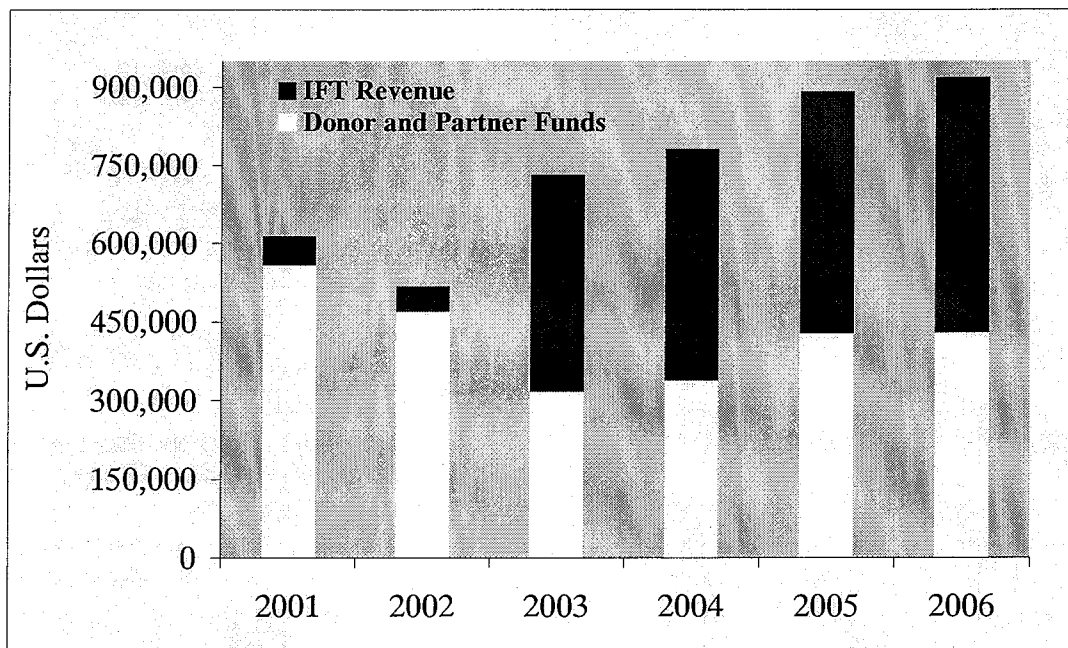
The preliminary estimates of operational costs for the IFT show a funding shortfall of approximately \$425,000 in per year, based on values for 2006 (i.e. costs not covered by income from training, research, and timber sales). By this time IFT will be at full capacity, earning approximately \$489,000 per year from timber sales, research income, and training revenue for a total estimated operational costs of \$914,000.

It is anticipated that IFT will develop long term arrangements with industry and government agencies to underwrite the costs. Another option that IFT will explore is an endowment that will provide the Institute with an annual income.

In addition, the costs presented here are preliminary estimates from the first Business Plan. These figures have given us a benchmark to begin the discussion of IFT financial requirements. Once the site has been selected and initial donor funding is secured, the Business Plan will be revised. The final Business Plan will pay careful attention to the costs and we fully expect that between the IFT revenue, additional income from long-term agreements, and a tighter budget, the IFT will be a financially independent organization.

Figure 3 and Table 1 show the preliminary estimates of IFT operational expenses, IFT revenue, donor or partner funding required, and donor funding that has already been secured (Table 1). For comparison, Figure 3 shows the actual FFT costs and income for the year 2001, in which the total operational cost reached just above \$600,000.

Figure 3. FFT 2001 actual operational costs - FFT 2002 & IFT 2003-2006 estimated operational costs* by funding sources**



* With the exception of 2001, these are preliminary cost estimates and will be carefully reviewed in the Final Business Plan.

**Construction costs for the IFT in 2002 are not included, but have already been secured.

Table 1. Current funding commitments, IFT revenue, and additional funding requirements for years 2002 through 2006

Activities and Funding Requirements**	2001	2002	2003	2004	2005	2006
Pre-investment funding		50				
Bridging funding for FFT		195	324			
IFT establishment funding		25				
IFT construction costs			330			
IFT capital equipment			196			
IFT revenue			415	443	464	489
Additional IFT costs			317	338	428	429

** Details available in the Business Plan

Funding commitment secured

IFT revenue

Partner and donor funding required (Partners are considered Brazilian entities.)

TRAINING PROGRAM AND TIMETABLE

The timeframe for these activities is as follows. Continued site selection, partnership formation, and donor solicitation will take place through the end of this year (2001). Year 1 (2002) will be a final year of training activity for FFT to ensure continuity and to maintain stakeholder interest in FM-RIL. About 260 people will receive training in 2002. This number is lower than the number of students for 2000 and 2001; the reduction in student training is due to the burden associated with developing the IFT during 2002. During the first half of 2002, IFT will be established as a legal entity. Once it is a legal entity (June 2002), construction of IFT's permanent training facilities will commence and additional staff will be hired.

Training in the new facilities will start in Year 2 (2003). In subsequent years, IFT will grow to full capacity; additional courses and staff will be added with the number of trainees increasing to an estimated 450 in Year 5 (2006).

Table 2. Courses and participants for years 2002 through 2006

OUTPUTS BY YEAR**	2002	2003	2004	2005	2006
Bridging program - FFT	22 ^a /260 ^b				
IFT Training program		20/278	24/329	30/394	34/453

** Detailed in the business plan

(a) Number of courses and (b) Number of participants - total for both off-site and on-site

**Annex K – Minutes of meeting with Ibama, MMA and FFT regarding the
Schedule of establishing the permanent training center**

Memórias da Reunião de Implementação do Centro de Apoio ao Manejo Florestal na Amazônia

Data: 25/02/2003

Horário: 9:00 horas

Local: Diretoria de florestas IBAMA/SEDE

Participantes:

Nome	Instituição
José Natalino M. Silva	EMBRAPA / FFT
Guilherme L. A Gomide	PNF / MMA
André da Silva Dias	FFT / IFT
Hildenberg da Silva Cruz	ProManejo/PNF/MMA
Rossynara Marques	Promanejo
Jorhan Zweede	FFT/IFT
Antonio Carlos Hummel	IBAMA
Francisco Barreto Campello	IBAMA
Tasso Resende de Azevedo	PNF/MMA
Selma Bara Melgaço	consultora

1. Introdução

A reunião foi convocada pelo PNF/MMA e pela Diretoria de Florestas/IBAMA com o objetivo de se discutir a necessidade e as condições para a criação de um Centro de Referencia em Manejo Florestal na Amazônia.

A reunião foi iniciada pelo Gerente de Uso Sustentável dos Recursos Florestais, do MMA, que informou que a criação de um centro de treinamento e capacitação em manejo florestal é uma das prioridades do governo da Ministra do Meio Ambiente, cujo lançamento deverá se dar até o mês de junho deste ano. Relatou também a existência de outros Centros de Treinamento e capacitação na região amazônica como os de SINOP/MT, da FUNTAC/Acre e o da Mil Madeireira comentando sobre a importância destes Centros para o manejo sustentável das florestas do Brasil e de outros países da América Latina. Mencionou também sobre o trabalho em conjunto do MMA e IBAMA, bem como sobre a disponibilidade do ITTO em apoiar a criação de Centros de Treinamento. Finalmente passou-se a discutir o formato institucional deste Centro de Referencia e da importância de se sair desta reunião com uma agenda definida.

Após, o Diretor de Florestas do IBAMA falou sobre a necessidade de se avançar nos estudos para a concepção do Centro e lembrou do apoio do ProManejo, do qual é também coordenador, às atividades de treinamento e capacitação realizadas pela FFT, e citou o mesmo apoio dado aos Centros em SINOP/MT através da parceria SENAI e a empresa Madeireira COIMAL e no Acre por meio da SEFE/FUNTAC e empresa madeireira, reafirmando o entendimento da Diretoria sobre a necessidade de criação deste Centro. Ressaltou também, que o futuro Centro de Referencia serviria como um

catalisador das ações dos demais centros, gerando e difundindo conhecimento e capacitando multiplicadores.

O representante da FFT, Johan Zweede, apresentou os resultados dos treinamentos realizados em 2002, bem como as demandas (557 pessoas, planejado para 180 e realizado 301) e as dificuldades da entidade em continuar a operar sem uma estrutura própria, dependendo sempre de doadores internacionais com propostas a curto prazo (menos de dois anos) e sem capacidade de atender às demandas existentes, tanto em nível nacional quanto internacional. Mencionou que a FFT fechou o ano de 2002 com déficit de US\$ 80,000. Lembrou, também, que os treinamentos são oferecidos a profissionais de todos os níveis, nos processos de produção e de processamento primário, e que também realizam pesquisas aplicadas no sentido de oferecer modelos de exploração de impacto reduzido, como por exemplo, para a exploração madeireira durante o inverno amazônico. Lembrou que em reuniões realizadas anteriormente foi levantada a questão de como a FFT é uma organização internacional sendo desta forma não elegível para receber recursos do governo brasileiro, mas esclareceu que este problema foi solucionado com a criação do IFT- Instituto de Floresta Tropical, em outubro de 2002, cujo conselho diretor é composto José Natalino Macedo Silva (Diretor), André Dias, Johan Zweede, Adalberto Veríssimo e Ana Cristina Barros. Lembrou, ainda, que existe um projeto da FFT em análise junto ao ITTO para financiamento parcial destes cursos (período 7/2003 a 7/2005) e da disposição do KFW de apoiar a implantação da infraestrutura deste Centro. O André Dias, também da FFT, mencionou o fato de a FFT ser procurada por vários estudantes de engenharia florestal interessados em participar de cursos da Fundação, tendo estes estudantes pago a participação nos cursos oferecidos pela FFT com recursos próprios, o que demonstra a importância da existência deste Centro em preencher as lacunas existentes na grade das escolas de instituições de ensino da região e a necessidade de o trabalho ser realizado em parceria com outras entidades.

2. Definição do nome do Centro

Posteriormente entrou-se na pauta da reunião e passou-se a discutir o nome do Centro em função de seus objetivos e alguns nomes foram propostos:

1. Centro de Referência em Manejo Florestal;
2. Centro de Treinamento em manejo florestal na Amazônia;
3. Centro de treinamento em Manejo Florestal.

Após a discussão sobre algumas sugestões optou-se por “Centro de Apoio ao Manejo Florestal na Amazônia” por ser mais abrangente.

3. Escopo

Passou-se a discutir o escopo das atividades, quando ficou definida a Bacia Amazônica como área de atuação deste Centro, podendo o mesmo vir a ser um instrumento do TCA - Tratado de Cooperação Amazônica. Este Centro teria como objetivos proporcionar a difusão das técnicas de manejo florestal e exploração de impacto reduzido através de treinamento e capacitação, criação de modelos/sistemas de manejo, apoio à pesquisa aplicada, fomento e extensão. O Centro atuaria em rede com as outras iniciativas e instituições que atuam ou venham atuar nas áreas de treinamento, pesquisa aplicada e modelagem de manejo florestal.

Tasso mencionou a importância estratégica deste Centro contribuir para i) a adequação curricular das escolas técnicas florestais, ii) bem como junto aos cursos de engenharia florestal, iii) promover a integração das operações florestais com o processamento primário da madeira e finalmente iv) operar em rede com os demais centros de treinamento já mencionados.

4. Público Alvo

O público-alvo definido é:

- Centros de Treinamento e formação: ex: Unidades apoiadas pelo Promanejo (FUNTAC, SENAI, Mil Madeireira), Escolas Técnicas e Cursos de Engenharia Florestal;
- Profissionais que atuam em operações florestais (de todos os níveis);
- Projetos de Manejo Comunitário, Sindicatos e Associações de Classe, indústria, organizações da sociedade civil;
- Governo: IBAMA, MMA, OEMAs, Ministério da Educação, Ministério do Desenvolvimento da Indústria e do Comércio, Agências de Desenvolvimento, SEBRAE e Prefeituras Municipais;
- Instituições de pesquisa.

5. Estrutura e definição de local

Após algumas discussões definiu-se pela criação de um Centro na estrutura do IBAMA, a ser administrado por um Conselho deliberativo composto por instituições e entidades afins, devendo suas atividades serem executadas pelo IFT através um convenio entre o IBAMA e o IFT.

Para uma melhor discussão do formato institucional do Centro passou-se a trabalhar com dois cenários possíveis: a instalação de Centro em i) área privada ou ii) pública.

i) Área privada

No caso do centro ser instalado em área privada o IFT faria um convênio para a cessão de uso da terra com a empresa. Neste caso pensou-se em três cenários para viabilizar a geração de receita ao Centro com a venda de madeira:

- 1) O IFT vende e paga a madeira em pé para a empresa.
- 2) A Empresa compra madeira pelo valor de mercado aberto. Mesmo que seja a melhor opção, não cobre todos os custos operacionais, já que os custos de produção serão maiores que o de um manejo empresarial, por se tratar de atividade de treinamento. As empresas ajudariam a captar a diferença com recursos externos.
- 3) Empresa compra madeira pelo valor dos custos operacionais.

Em todos os casos, pensou-se que a operação florestal do Centro deverá ser certificada. Definiu-se que, posteriormente, ao se ter esta proposta mais elaborada, esta será enviada a algumas empresas madeireiras para verificação da aceitação e sugestões. Mencionou-se que as empresas Vale do Rio Doce, Jarí, Cikel e Precious Woods seriam potenciais interessadas na proposta. Foi lembrado que a CIKEL deveria ser a primeira empresa a receber a proposta, por estar apoiando a FFT desde o início.

ii) área pública

Houve concordância de que se optasse pela instalação do Centro em área pública a Flona Tapajós seria a melhor opção, Passou-se a discutir a viabilidade legal da instalação do Centro de treinamento na Flona Tapajós.

Foi mencionado que a Flona Tapajós passa por um processo de regularização fundiária de suas terras, já que a mesma se encontra sob jurisdição de outros órgãos (Incrá, Iterpa), sendo necessário obtenção de informação adicional sobre esta situação. Informou-se também que três comunidades indígenas reivindicam áreas dentro da Flona. Também foi discutido qual seria o mecanismo jurídico mais apropriado para viabilizar a instalação do centro de treinamento no local. Discutiu-se dois modelos para gestão da receita:

Modelo 1 - O IFT paga ao Ibama o valor da madeira em pé e depois a vende. Este é o modelo atualmente empregado pela Treviso/CEMEX na Flona Tapajós.

Modelo 2 – O Ibama vende/leiloa a madeira em tora no pátio. O recurso obtido e transferido para o Centro de Treinamento dentro da estrutura do Ibama, que por sua vez repassa o valor ao IFT.

6. Responsabilidades e agenda

A reunião foi encerrada com a sugestão que Berg e Gomide ficassem responsáveis pela coordenação dos trabalhos. Definiu-se as ações a serem executadas por cada participante da reunião e as datas para a entrega de seus produtos:

Definiu-se o seguinte calendário:

10/03 a 19/05 – estudos

19/05 – fechamento da proposta

26/05 – apresentação à Ministra

1ª semana de junho – lançamento

Atividades	Meses			Responsáveis
	Março	Abril	Maió	
1)Elaboração de Minuta de Portaria para criação do centro	(28/03) Estudar modelos de outros Centros do IBAMA e outros modelos	(4/04) Proposta de estrutura e funcionamento (7-11/04)Consulta petit comitê – reunião; elaboração minuta V1.0	(5-09/05) Envio de Minuta ao Jurídico	Selma
2) Minuta de convenio Centro X IFT	(28/03) - Estudar TAMAR, CEMAVE	(4/04) Proposta de divisão de responsabilidade entre as partes e condições (11/04) Consulta petit comitê – reunião; elaboração minuta V1.0	(5-09/05) Envio de Minuta ao Jurídico	Selma
3)Documento explicativo dos passos e implicações de ser em área privada	(28/03) Identificar áreas			Natalino, Berg, Carlos Guerreiro
	(28/03) Estudo de viabilidade econômica			FFT
	(28/03) Verificar limites na atuação do MMA/IBAMA			Selma
	(28/03) aplicar matriz de avaliação de área			FFT
		(4/04) proposta para operação e custeio		FFT
		(11/04) Consulta com as empresas e petit comitê		
			(5-09/5) Modelo de contrato e parceiros/ concessão(?)	Hummel, Guerreiro
4)Documento com passos e implicações de ser área pública	(28/03) Apoio local -Levantamento benefícios / contrapartida para comunidade. -Conselho visitar ITTO -Visita de liderança na FFT em Cauaxi -Ângelo vir na reunião de abril			Rossinara, André e Ângelo
		(4/04) Regularização Fundiária Chance de solução / em que prazo e como podemos ajudar?		Selma
		(4/04) questão indígena 3 Comunidades reivindicando reconhecimento de áreas Garantir que área selecionada não corre risco de virar TI		Selma
		(4/04) EIA RIMA SNUC exige EIA RIMA – já tem o da área do Projeto ITTO Tempo e custo		Selma, André
		(4/04) Plano de Manejo da UC Como está e quando fica pronto?		Ângelo e Selma
		(4/04) Gestão da receita /produtos -Modelo 1- IFT paga pela madeira em pé – Modelo Treviso/CEMEX -Modelo 2 – Centro / Ibama vende licita madeira em tora		Gomide

Annex L: Recommendations of the 25th ITTO Experts Panel and Responses

Specific Recommendations	Responses / Actions Taken
<p><i>1. Reformulate the problem tree and the specific objectives so as to more clearly define the problems and solutions proposed;</i></p>	<p>We re-worded specific objective (SO) 2 so that it more clearly conveys the point that FM-RIL must be ‘sold’ in many regions of the Brazilian Amazon. The extension activities (e.g., workshops, lectures, and seminars) are quite distinct from the training activities (the mechanism of achieving SO 1), and are intended to raise awareness about the importance, technical feasibility and financial viability of adopting RIL. By raising awareness in this way, the extension activities promote FM-RIL and create demand for practical training. The new wording of this objective is:</p> <p align="center"><i>De-mystify the concept and promote the practice of FM-RIL amongst stakeholders in the Brazilian Amazon through extension work.</i></p> <p>We also re-formulated the problem tree as suggested so that it more clearly shows the causes of the distinct (though obviously related) problems addressed by the two SOs .</p>
<p><i>2. Describe in detail the current status of the training center and the strategies to be applied to guarantee its long-term functioning and sustainability;</i></p>	<p>We re-wrote Part III, section 3 “Future operation and maintenance” to include a more specific explanation that the training center is now a priority activity with the government of Brazil through the Ministry of Environment and IBAMA. In addition, the “Proposal for the Permanent Training Center” is attached (Annex J) along with the minutes of a key meeting with MMA, IBAMA, and FFT in Brasilia (Annex K) where procedures and a timeline were agreed upon for the establishment and operation of the permanent training center.</p>
<p><i>3. Clearly state the number of participants from each Amazon Basin country to be trained;</i></p>	<p>In discussions with Mr. John Leigh in February 2003, we explained that this issue was left vague because of limited funds, the need to bridge FFT’s transitional period, and the priority of training Brazilians. We agreed that rather than allowing only Brazilian participants, the courses should be open to qualified trainee candidates from other Amazon Basin ITTO member countries if the project would not incur additional expenses by their participation. We added a paragraph in Part II, Section 2.5.1.4 that states these points and further notes that participation of candidates from other</p>

Specific Recommendations	Responses / Actions Taken
	countries will be actively promoted. This promotion will be the responsibility of the Intl. Promotional expert.
4. <i>Attach a written commitment from the company authorizing the TFF to run training on its property;</i>	Annex I is a letter by <i>Cikel Brasil Verde S/A</i> authorizing the use of their land for the project from 2003 through 2005 and a translation of the same.
5. <i>Modify the organizational chart so that it clearly indicates TFF's executing agency role in the implementation of this project;</i>	The organizational chart in Annex C was modified to reflect FFT's role as the executing agency responsible for the implementation of this project.
6. <i>Attach Terms of Reference for all professional staff and consultants describing their responsibilities in relation to specific project activities and outputs, instead of the Curricula Vitae currently attached. Further clarify the role of the International Promotional Expert. Note that ITTO procedures require project personnel to participate full-time if financed by ITTO and, as such, they cannot assume additional posts simultaneously at other institutions or projects;</i>	Terms of reference are attached for all the professional staff and consultants. In a consultation with Mr. John Leigh (Feb-03) he agreed that the C.V.s of those staff members already employed by FFT could be included and, unless this was a misunderstanding, they are. The role of the International Promotional Expert is to promote the courses outside of Brazil in Amazon Basin countries. (He recently played this exact role by facilitating the training of 12 trainers from Guyana who just completed a course at the FFT facilities in Brazil). In the budget, the calculation of time was changed to the whole 24-month period of the Project and based on the estimated number of days he will spend per month on course promotion.
7. <i>Clearly identify and separate the items each funding source will finance, rather than allowing co-financing of most items as presented in the proposal, as this blurs the financial responsibility of each funding source and does not allow for proper auditing of ITTO's part of the expenditure;</i>	As recommended, we separated each budget item by funding source. Although we understand that this facilitates accounting and auditing, we note that in many cases such separation is artificial and illogical. For example, in the case of trainers and field camp food, all of the trainers work in every course (paid by more than one funding source). It is odd for one donor to pay for the food of the trainees and another for the food of the trainers.
8. <i>Include the costs related to the rental of project premises and to the Steering Committee meetings as part of the counterpart contribution to the project;</i>	The rental of the project premises is now allocated in the counterpart contribution. The line item of the Steering Committee meetings was confused with ITTO Monitoring, and that portion which remained is now in counterpart funding.

Specific Recommendations	Responses / Actions Taken
<p><i>9. Either include administration personnel and other related overhead costs itemized separately under the Personnel, Consumable items and Other Components as part of the counterpart contribution, or include it as a lump sum (15% of total project costs) under the heading of Executing Agency Management and Administrative Overhead costs. Avoid double-counting this component;</i></p>	<p>All general administrative personnel are allocated in overhead and in counterpart funding. We handled all other that could be considered as double counting in the same manner. The only items that remained as separate budget components are directly related to the training project and are identified as such. An example is the accountant who will work only on the funds allocated by ITTO.</p>
<p><i>10. Provide a budget line for ITTO Monitoring and Evaluation (US\$ 10,000/yr) and for Ex-Post Evaluation (US\$ 15,000) and recalculate ITTO's Programme Support Costs specified in the budget so as to conform to the new standard of 6% of the total project costs, and</i></p>	<p>The budget line items for Monitoring and Evaluation and Ex-Post Evaluation were corrected, and the ITTO Program Support Costs were recalculated. As a result, ITTO's total costs increased considerably; to keep the budget to a reasonable total, the ITTO direct project costs were reduced somewhat to compensate for this increase.</p>
<p><i>11. Include an Annex, which shows the recommendations of the 25th Panel and the respective modifications done by submitting agency in tabular form.</i></p>	<p>Done as recommended in this Annex (Annex L)</p>