

## INTERNATIONAL TROPICAL TIMBER ORGANIZATION

## ITTO

## PROJECT DOCUMENT

<b>TITLE</b>	CONSERVATION AND RECOVERY OF DEGRADED LAND IN FAMILY AGRICULTURE UNITS IN THE EASTERN BRAZILIAN AMAZON
<b>SERIAL NUMBER</b>	PD 346/05 Rev.2 (F)
<b>COMMITTEE</b>	REFORESTATION AND FOREST MANAGEMENT
<b>SUBMITTED BY</b>	GOVERNMENT OF BRAZIL
<b>ORIGINAL LANGUAGE</b>	ENGLISH

## SUMMARY

The proposal has the objective of recuperating areas classified as being legal reserve (LRA) and/or permanent preservation (PPA) in family agriculture areas in the Eastern Brazilian Amazon, seeking to reduce impacts from agricultural and forestry practices. The focal points of the project will be capacity-building with at least 150 agriculture producers in natural resource management in areas near bodies of water, and the recuperation and environmental monitoring of those areas. The project will be developed in micro basins of the municipalities of Bragança, Capitão Poço, Garrafão do Norte and Altamira in partnership with rural worker unions, producer associations and farming families. It is expected that environmental education applied in the capacity-building courses and the establishment of a reference demonstration network in recovery of degraded areas (at least 20 units), will allow awareness raising in terms of good use of water and plant resources by local actors. Additionally, it is expected that the discussion and adjustment of environmental legislation to family agriculture conditions in the Eastern Brazilian Amazon, as well as scientific monitoring of units undergoing recuperation (at least 9 units), and the elaboration of a monitoring system for degraded areas undergoing a process of recuperation may serve as a basis for guiding more appropriate public policies than those currently existing. For this to happen in a more direct fashion, the project has a partnership with the Brazilian Institute for the Environment and Renewable Natural Resources – IBAMA. The participatory focus will permeate all project activities, from management, with formation of local groups by municipality and a steering committee with their representatives, to the other proposed research and development activities. Mobilization will involve the rural population, with distribution of educational materials. Awareness by farmers in order for them to sign on to the activities advocated by the present proposal will be achieved as a result of the work that the executing institutions (Embrapa Eastern Amazon) and partners (Live, Produce and Preserve Foundation – FVPP; Rural University of Amazon – UFRA; Museum Paraense Emílio Goeldi – MPEG, Foundation Institute for Amazon Development – FIDESIA; and the Rural Workers Unions of Bragança, Capitão Poço and Garrafão do Norte) have been carrying out in the region.

**EXECUTING AGENCY** EMBRAPA EASTERN AMAZON

**COOPERATING GOVERNMENTS** —

**DURATION** 24 MONTHS

**APPROXIMATE STARTING DATE** TO BE DETERMINED

**BUDGET AND PROPOSED SOURCES OF FINANCE**

Source	Contribution in US\$	Local Currency Equivalent
ITTO	324,000	
COUNTERPART	191,700	
<b>TOTAL</b>	<b>515,700</b>	



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## PART I: CONTEXT

### 1. Origin

Embrapa Eastern Amazon, with an interest in solving problems related to secondary vegetation (*capoeira*) in the Northeast Pará region, has been developing – in cooperation with several national and international institutions – two important projects: i) *Project SHIFT Capoeira or Tipitamba* and ii) *Project "Forest Management of Secondary Vegetation in the Context of Agricultural Properties"*.

- *Project Tipitamba*: begun in 1991 through cooperation between the German and Brazilian governments, is being carried out in agricultural establishments, seeking to offer alternatives to slash-and-burn agriculture, in which the secondary vegetation, or *capoeira* is an integral part of the traditional agriculture system. Modifications proposed and tested include: i) substituting the traditional slash-and-burn land preparation with a slash-and-mulch system; and ii) enrichment of fallows vegetation with fast-growing leguminous trees, seeking to shorten the fallow period and increase accumulation of fallows vegetation biomass. Besides financial resources from the German government, the project has also received support from the CNPQ, Prodetab, Funtec, and others.

- *Project "Forest Management of Secondary Vegetation in the Context of Agricultural Properties"*: has been working in research and development since 1997, with a main focus on maintaining the secondary forest, based on the benefits that it can offer to rural communities, in regions where the primary forest no longer exists or is very fragmented. The area of action is located in the Northeast of the State of Pará (Figure 1). Participating in this project are international institutions (Center for International Forestry Research – CIFOR; Tropical Agronomical Center for Research and Teaching – CATIE; Center for International Cooperation in Agronomical Research for Development – CIRAD) and Brazilian governmental agencies (Embrapa Eastern Amazon, Rural University of Amazon and Museum Paraense Emilio Goeldi) as well as non-governmental organizations (Rural Workers Unions and Rural Producers). The activities have received support from different institutions over the years, such as: IDB, World Bank, Pilot Program to Protect Tropical Rainforest – PPG7 and Ministry of Environment – MMA. The project has undergone several phases, constantly expanding the number of agencies and partners involved and refining the participatory focus, including capacity-building in natural resource management, with a focus on legal reserve and permanent preservation areas.

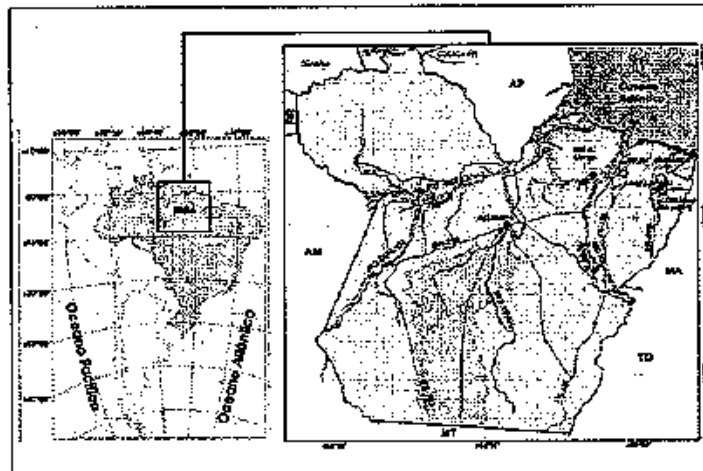


Figure 1. Map area of action of the project "Forest Management of Secondary Vegetation in the Context of Agricultural Properties", Northeast of the State of Pará

Concerning the theme of recovery of degraded land, Embrapa Eastern Amazon participates in the project *“Review of Experiences with Recuperation of Altered Areas in the Brazilian Amazon”*, carried out by the CIFOR, in partnership with the Institute for Environmental Research in the Amazon – Ipam and with the Museu Paraense Emílio Goeldi – MPEG. This project, developed simultaneously in Indonesia, Vietnam, The Philippines, China and Peru has the objective of learning about experiences in recovery of degraded areas, analyze them and draw out lessons that can inform public policies and financing seeking to increase the chances for recuperating areas that have already been altered in the Amazon. So far, more than 350 innovative experiences being developed throughout the Brazilian Amazon have been identified.

Beginning in 2005, Embrapa Eastern Amazon has the intention of not only investigating management of natural regeneration of secondary forests, but also of developing research and development activities for implementing participatory strategies for recovery of degraded areas in family properties, a demand for which has been detected since 2000. These are possible alternatives for testing as part of property use planning, seeking to provide for rehabilitation of the legal reserve and permanent preservation areas.

## 2. Sectorial Policies

The continental Amazon region has 7.5 million square kilometers and some 55% of this area is located in Brazil, corresponding to 2/3 of Brazilian territory. The appearance of altered/degraded areas is directly related to the process of human occupation in the Amazon. Ranching, predatory harvesting of timber and non-timber forest products, slash-and-burn agriculture, and, more recently, mechanized grain production have been the major activities causing deforestation. In 2002-2003 23,750 km<sup>2</sup> were deforested and over the last 10 years, an estimated 200 thousand km<sup>2</sup> have been deforested, making up the well-known arc of deforestation (a region that extends from Maranhão and Tocantins to the East, through Pará, Mato Grosso, Rondônia, Southern Amazonas and Eastern Acre) (Figure 2).

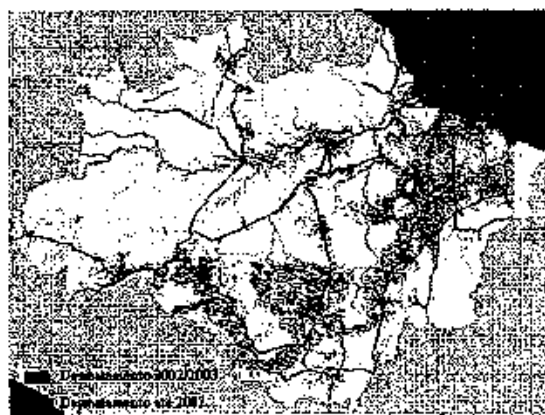


Figure 2. Arc of deforestation (a region that extends from Maranhão and Tocantins to the East, through Pará, Mato Grosso, Rondônia, Southern Amazonas and Eastern Acre) Source: INPE PRODES Digital, 2004

With the purpose of proposing measures and coordinating actions that seek to reduce the deforestation rate in the Legal Amazon, the Federal Government established a Permanent Interministerial Working Group (GPTI) composed of the following participating agencies: i) Ministry of Agriculture, Ranching and Supply (MAPA); ii) Ministry of Science and Technology (MCT); iii) Ministry of Defense (MD); iv) Ministry of Agrarian Development (MDA); v) Ministry of Development, Industry and Foreign Trade (MDIC); vi) Ministry of National Integration (MI); (vii) Ministry of Justice (MJ); (viii) Ministry of the Environment (MMA); ix) Ministry of Mines and Energy (MME); x) Ministry of Transportation (MT); and xi) Ministry of

Labor and Employment (MTE). Through a decree signed on March 15, 2004, the Ministry of Planning, Budget and Management and the Ministry of Foreign Affairs became part of the group.

This cross-cutting policy also allowed the MMA, together with the MDA, through the National Institute for Colonization and Land Reform (INCRA), to establish a new model for land reform in the Amazon. This is the use of settlements for sustainable forest use, as opposed to the exclusively agricultural settlements of the past. Additionally, the Brazilian Institute for the Environment and Renewable Natural Resources (IBAMA) has been working to reduce bureaucracy and simplify norms for forest management and reforestation activities.

Additionally, within the MMA, the Secretariats for Biodiversity and Forests (SBF), for Sustainable Development (SDS) and for Amazonian Coordination (SCA) have programs/projects for recovery of degraded areas.

The SBF has the task of proposing policies and norms, defining strategies, and implementing programs and projects, in themes related to: i) shared management of the sustainable use of natural resources; ii) knowledge, conservation and sustainable use of biodiversity; iii) access to genetic resources; iv) reforestation and recovery of degraded areas; v) sustainable use of fish and fisheries resources; vi) management of the national system of conservation units; and vii) sustainable use of forests, including the prevention and control of burning and forest fires.

The SDS has the duty of proposing policies, norms and strategies, and implementing studies, seeking to improve to the productive sector and the environment, with regard to: i) contributing to the formulation of the National Policy for Sustainable Development; ii) developing economic instruments for environmental protection; iii) accounting and economic valuation of the natural resources; iv) fiscal and credit fiscal incentives; v) encouraging technologies for protecting and recuperating of the environment and reducing environmental impacts; vi) encouraging companies to adopt voluntary codes of conduct, environmentally adequate technologies and investment opportunities for seeking sustainable development; and vii) promoting ecotourism.

The SCA, created in 1993 to deal with the Brazilian Amazon, has the objective of implementing policies for the region and performing the activities of executive secretary of the National Council for the Legal Amazon (CONAMAZ). Its actions are carried out through the following: i) Environmental Management; ii) Pilot Program for Protecting the Brazilian Tropical Rainforest – PPG7; and iii) Agroextractivism and Proecotur/Green Tourism. Within the SCA there is the Pilot Program for Protecting de Brazilian Tropical Rainforest (PPG-7). Belonging to SCA and created by the government and by Brazilian civil society in partnership with the international community, the PPG7 is the broadest international cooperative initiative seeking to protect tropical forests. This program is a unique example of partnership in attempting solutions involving the global environment. The result of a bilateral Brazil-Germany cooperation, acting in the Brazilian Amazon, and with resources from the PPG7, the type A Demonstration Project (PD/A) has been stimulating the use of altered areas for sustainable agroforestry production.

For the forest sector, the MMA, making use of the National Forest Program (PNF) launched in September 2000, defined a set of goals that incorporates lessons from the past, and establishes the expansion of the planted base only in deforested areas, while at the same time prioritizing the insertion of small producers and recuperation of the degraded areas with native species attending to the demands of settled colonists and traditional populations (Indians, rubber tappers) for the use of forests as a source of employment and income. The PNF objectives also include eliminating an annual deficit of 200 thousand hectares of forest between what is currently planted in the country (300 thousand hectares), and what should be cultivated (500 thousand

hectares), to supply the industrial demand and guarantee the supply of timber for the sector, reducing the pressure on the native forests. The investments of the PNF will prioritize the recovery of degraded areas, especially those in permanent preservation (especially watersheds), which are fundamental for maintaining biodiversity, and water quantity and quality. Consequently, there will be generation of employment and income in small and medium-sized rural properties with the use of areas without an agricultural vocation.

### **3. Programs and Operational Activities**

The Ministry of the Environment has elaborated a set of goals for the National Forest Program (PNF), for the period of 2004-2007, which contains fundamental instruments for the sustainable development of the Brazilian Forest Sector. Expanding the planted forest area in the country so as to enable businesses based on forest inputs (paper and cellulose, wood products and furniture industries); increment the managed forest area, so as to supply 30% of the industrial demand for (native) forest products coming from well managed areas and increase from a thousand to 30 thousand the total of small producers involved in sustainable forest production in the Amazon, Atlantic Forest, *Caatinga* and *Cerrado*, are some of the goals to be achieved. Besides the interministerial group set up by the Federal Government to operationalize cross-cutting actions, it is important to observe the results of *innovative experiences* with great potential for contributing to policies for containing deforestation and providing viable alternative strategies for protection and sustainable use of the forest. In this sense, the following initiatives, on the part of governmental agencies, civil society agencies and the private sector:

- *Project Proteger*: is part of the Pilot Program for Protecting the Brazilian Tropical Rainforest (PPG7), coordinated by the Amazon Working Group (GTA), and acts in the area of social mobilization and capacity-building for prevention of fires and control of burning;
- Program "*Bom Manejo do Fogo*": coordinated by the Institute for Environmental Research in the Amazon (IPAM), has developed studies on the efficiency of techniques for preventing accidents with fire, and applied command and control instruments through fire management centers in partnership with FETAGRI, PROTEGER and IBAMA, in various municipalities of the State of Pará, with the support of PROMANEJO and PD/A of the Pilot Program;
- Project "*Fogo Emergência Crônica*": coordinated by the NGO Friends of the Earth – Brazilian Amazon, and the "Program Fire: The Amazon Finding Solutions" coordinated by the Instituto Centro de Vida (ICV), both supported by the Italian cooperation, have developed innovative strategies for negotiating "pacts for fire prevention and control" that involve the active participation of city governments and various sectors of local society;
- *Natural Resource Policy Subprogram (SPRN)* of the Pilot Program: has supported innovative initiatives, such as the development of a system for environmental licensing in rural properties in Mato Grosso, and fire and forest fire prevention and fighting campaigns in the State of Roraima, as well as the campaign *Amazon Stay Legal*, involving the building of a partnership between IBAMA and the State Environmental Agency (OEMA);
- *System for Controlling Forest Products (SISPROF)*: a computerized system for managing information related to authorizations for deforestation and management plans, was implanted in the IBAMA Executive Management departments in the Amazon, and developed, on a pilot scale, as a new tool for control and monitoring of timber transport and production, using satellite tracking and data transference in real time, within ProManejo/IBAMA/PPG7;



- *Integrated Program for Monitoring, Prevention and Control (PROARCO)*: coordinated by IBAMA, with support from the World Bank, maintains an advanced system for monitoring heat points;

- *National System for Preventing and Fighting Forest Fires (PREVFOGO)*: has acted in forming brigades linked to the federal conservation units for prevention and control of forest fires; and

- *Nucleus for Air Operations (NOA)*: connected to IBAMA, acts in integrated fashion with the General Enforcement Coordination, with support from airplanes and helicopters, providing greater agility for both enforcement activities and support for fire-fighting actions.

- *National Forest Program (PNF)*: is carried out with involvement of various sectors of the government and society, represented on the Coordinating Commission of the National Forest Program (Conaflor). Its strategic actions encompass:

1. Expansion of the planted forest base and recovery of degraded areas:

- planting of 800 thousand hectares in small and medium-sized properties by 2007;
- planting of 1,2 million hectares through sustainable business programs; and
- recuperation of 200 thousand degraded hectares by 2007

2. Expansion of the managed forest area associated with the protection of areas with high ecological value:

- add 15 million hectares of natural forests under sustainable production to supply 30% of national industry demand;
- assure that one third of sustainable forest production originates from social forests, with family, community or extractivist production; and
- guarantee protection of two million hectares with high ecological value next two areas earmarked for forest management.

- *National Program for Incentives to Silviculture and Agroforestry Systems for Family Agriculture (Pronaf Florestal)*: is a line of credit set up in partnership between the Ministry of Agrarian Development and the Ministry of the Environment, seeking to stimulate family farmers to practice silviculture, agroforestry systems and sustainable forest management, so as to generate employment and increase family income through diversifying activities on their properties. The line of financing establishes the requirement that the beneficiary be a farming family. The annual interest rate is 4% per annum, with a period of up to 12 years for payment, which may be extended for up to 16 years when financed with resources from the constitutional funds, with the additional concession of a 25% rebate on the interest rate when payments on the financing portions are made on or before the due date. In 2004 Pronaf will have at least R\$ 70 million to stimulate planting of forest species and support family farmers in implementing multiple use sustainable management projects, reforestation and agroforestry systems.

- *Project Recovery of degraded Areas in the Amazon*: was created in the year 2000, with the general objective of stimulating recuperation and creation or strengthening of sustainable alternatives for economic use of altered forest areas in the Brazilian Amazon. This project prioritizes actions in the most deforested municipalities, above all those that are part of the so-called Arc of Deforestation. Priority is also given to some other municipalities considered strategic in the context of human pressure. The financial resources that enable the Project for Recovery of degraded Areas in the Amazon come from the general federal budget and parliamentary amendments (Table 1).

Table 1. Financial resources applied to the Projects for Recovery of degraded Areas in the Amazon, between 2000-2002

FINANCIAL RESOURCES APPLIED (US\$)				
Origin/Year	2000	2001	2002 (up to June)	Total
Federal budget	426,918.00	638,162.00	239,644.00	1,340,724.00
Parliamentary amendments	1,312,946.00	1,662,310.00	0.00	2,975,255.00
Total	1,775,864.00	2,300,472.00	239,644.00	4,315,980.00

With regard to the results achieved by this project, one may observe that there has been a great demand for support for actions for recuperating degraded areas in the Amazon. In 2000 and 2001 were 93 proposals presented for, of which 62 were from city governments and/or states and 31 from non-governmental organizations. Of this total, 26 were effectively converted into agreements, of which 15 were with city governments/states, totaling R\$ 4.6 million, and 11 with NGOs, totaling R\$ 1.4 million disbursed. These agreements promoted the recuperation of an area of 2,052 ha, including 1,350 ha of agroforestry systems and 702 ha of permanent preservation areas (PPA) and legal reserve (LRA). They led to the implantation of 135 seedling nurseries and production of 3.4 million seedlings, and also in capacity-building of some 2,517 people through 89 courses. There were more than 1,400 radio spots about environmental recuperation and conservation and widespread distribution of teaching brochures, dissemination materials and videotapes. The projects supported are distributed among the states of Rondônia, Pará, Acre, Amapá, Tocantins, Amazonas and Mato Grosso.

In 2002 an agreement was signed (Nº 2000, CV/000122) between the Ministry of the Environment, through SCA and the Institute for Environmental Research in the Amazon (IPAM), with collaboration from Embrapa Eastern Amazon and Museu Paraense Emílio Goeldi, which allowed the preparation of the bases for a program for recovery of degraded areas for the Amazon. To summarize, the structure suggested for the program encompasses: i) adaptation and creation of financial mechanisms for recovery of degraded areas; ii) capacity-building for human resources; iii) interinstitutional and intersectorial articulation; iv) research and evaluation of empirical experiences with recovery of degraded areas; v) technical assistance; and vi) Monitoring. With elaboration of the aforementioned program, reducing the existing limitations became more feasible.

## **PART II: THE PROJECT**

### **1. Project Objectives**

Brazilian environmental legislation stipulates that in the Amazon rural properties are to have 80% in natural forest cover (legal reserve area – LRA), discounting the area alongside rivers and springs (permanent preservation area – PPA). However, in the Brazilian Amazon this legislation is generally not observed, for various reasons and with various consequences (Figure 3).

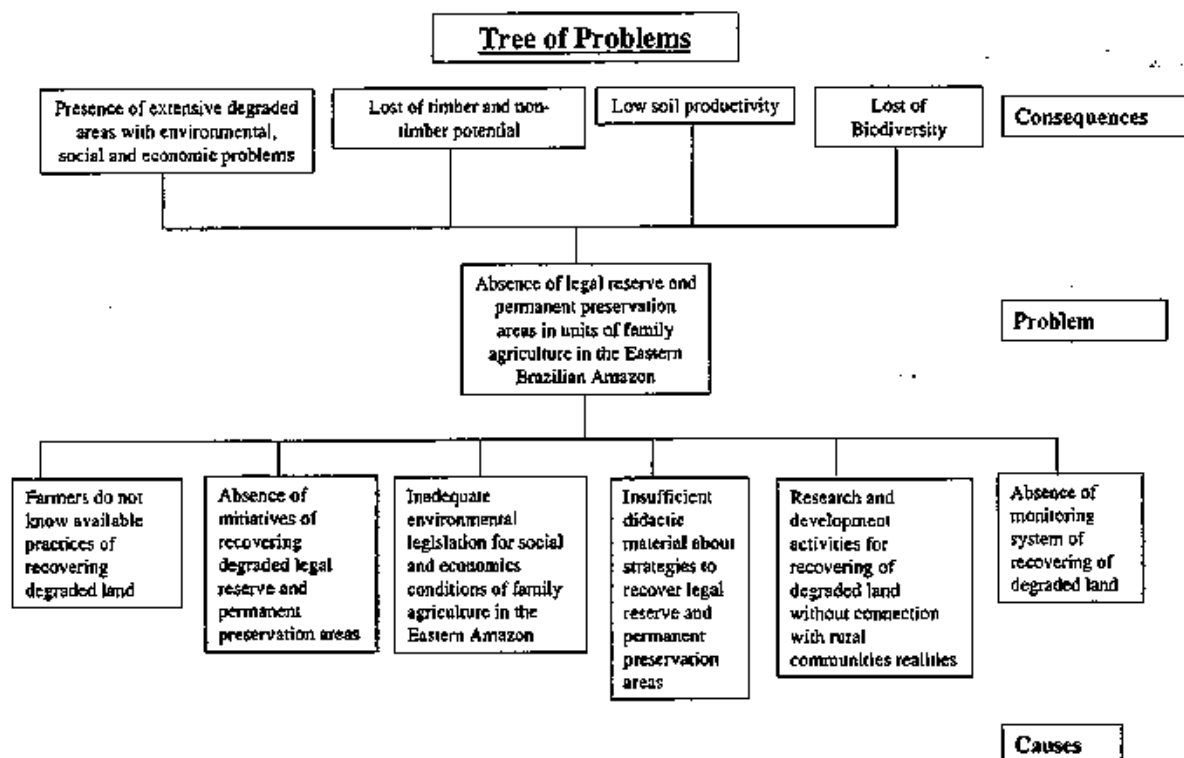


Figure 3. Tree of problems embracing consequences, problems and causes of degraded land in the Brazilian Amazon

### 1.1. Development Objectives

Contribute towards recovery of degraded areas in family properties in the Eastern Amazon seeking to increase the forest production potential and inform adjustments to environmental legislation.

### 1.2. Specific Objective (s)

Specific Objective 1 – Establish a demonstration network for recovery of degraded legal reserve and permanent preservation areas in family properties in the Eastern Brazilian Amazon.

Specific Objective 2 – Elaborate a monitoring system for degraded areas undergoing the recuperation process.

## 2. Justification

### 2.1 Problems to be addressed

The economic models used in occupying the Amazon have not employed appropriate environmental policies, and as result, one may observe that the annual deforestation rates have been increasing (23,750 km<sup>2</sup> for 2002-2003) (Inpe, 2004). In the last 10 years, it is estimated that 200 thousand km<sup>2</sup> have been deforested, composing the well-known *arc of deforestation*. The main agents in landscape alteration are ranching, predatory harvesting of timber and non-timber forest products, slash-and-burn agriculture and, more recently, mechanized grain agriculture. Schneider *et al.* (2000) estimate that the percentages of abandoned agricultural areas in the Amazon vary from 8.4%, in the drier zones (less than 800 mm precipitation per year<sup>-1</sup>), to 28.5% in the older colonization zones and with precipitation greater than 2200 mm per year<sup>-1</sup>.

Within the process of alterations to the Amazon ecosystem, it is important to note the continuous increase in appearance of areas of secondary forest (*capoeiras*), which may become the predominant ecosystem in the Amazon landscape, if current patterns of land use are maintained. In the Bragantina micro region, for example, an area located in Northeastern Pará State and originally covered by tropical forest, after 120 years of agricultural colonization, less than 15% of the original vegetation covering still exists, and *capoeiras* occupy some 53% of the region (Alencar *et al.*, 1996; Vieira, 1996). In the same fashion, in the municipality of Paragominas, Northeastern Pará, in little more than two decades 616 thousand hectares of forest were felled to establish agricultural and ranching activities, and by 1988, 43% of this area had been abandoned and was occupied by *capoeira* (Watrin, 1991). In the municipality of Altamira, Southwestern Pará, in a settlement area for family farmers along the Transamazon highway, some 47% of the primary forest area was deforested to establish pastures and annual and perennial crops between 1971 and 1991 (Moran *et al.*, 1994).

Secondary forests cannot be considered as degraded areas of no value in the Amazonian landscape, since they reestablish soil organic functions and constitute reserves of seeds and fruits of regional native species that allow maintenance of floristic diversity and support regional wildlife (Brienza *et al.*, 1995; Vieira *et al.*, 1996; Nepstad *et al.*, 1996; Adams, 1997). Ethnobotanical studies confirm that secondary forests also are rich sources of useful species for native populations (Toledo *et al.*, 1995; Chazdon and Goe, 1998; Rios, 2001) and are intensely employed as sources for producing firewood, foods, medicines, dyes and construction material (Withelm, 1993), although this vegetation is generally undervalued and receives few incentives for commercial purposes and sustained management.

From the environmental point of view, the growth of secondary forests has contributed to immobilization of carbon from the atmosphere, reestablishment of hydrological functions, recovery biodiversity, reduction of potential nutrient loss through erosion and leaching and reduction of landscape flammability (Brienza Júnior, 1999; Nepstad *et al.*, in press).

As regards recovery of degraded areas originating from family agriculture, planting of fast-growing trees can optimize accumulation of biomass and nutrients with a view to improving agricultural productivity (Brienza Júnior, 1999). In terms of the legal requirement for forest covering and the right to land use (Lopes, 2003), many rural properties in the Amazon have gone beyond the limits allowed for deforestation (20%) and today need to recompose their legal reserve and/or permanent preservation areas. In these cases, secondary forests may provide the ecological basis for management of natural regeneration (Oliveira *et al.*, 2000) or, for enrichment plantings with timber and/or non-timber species (Yared *et al.*, 1988).

In the project "Elaboration of technical bases for a program for recovery of degraded areas", Agreement MMA/IPAM nº2000 CV/000122, concluded in 2002 by Ipam for the Amazon Coordination Secretariat (SCA), in partnership with the Museum Emilio Goeldi and Embrapa Eastern Amazon, it was found that there were no pilot demonstration experiences in recuperation of legal reserve and permanent preservation areas.

From 2000 to 2003 civil society in the Amazon prepared the Program for Socio-environmental Development of Rural Family Production (Proambiente), which became a government program linked to the Ministry of the Environment, when the new PPA – Pluriannual Plan (2004/07) took effect. Its activities encompass territorial organization by means of forming Poles, rural credit, establishment of sustainable systems for rural production, strengthening of social organizations, technical advice and rural extension, certification and remuneration of environmental services. Proambiente foresees the provision of six types of environmental services: (1) deforestation

avoided, (2) atmospheric carbon sequestration, (3) water conservation, (4) soil conservation, (5) preservation and conservation of biodiversity, and (6) reduction of fire risk.

In the present project, activities focusing on capacity-building with farmers, discussion of adjusting environmental legislation to the context of family agriculture, elaboration a system for monitoring of degraded areas undergoing recuperation and establishment of a demonstration network for recovery of degraded areas, may contribute towards informing the different environmental programs that deal with the theme of recovery of degraded areas considered as relevant by the various governmental agencies.

## *2.2 Intended situation after Project completion*

During development of the present work proposal a network of partnerships will be established and strengthened involving farmers and their representatives, such as rural worker unions and producer associations, which are the potential multiplying agents for techniques for recuperating degraded areas that will be disseminated. Additionally, the strategy of working in partnership with educational institutions also has an impact on disseminating information on alternatives for recovery of degraded areas for children of farmers. In this regard, one may cite the primary-level municipal agricultural school in Bragança and state primary and secondary-level school in Marituba, and the Federal University of Pará, Bragança campus, with the objective of involving students in these institutions to make them future professionals/multiplying agents of the potential for secondary forest management. On the other hand, it is also expected that the discussions on adjusting environmental legislation for family farmers may lead to indications that can inform public agencies in formulating public policies that are more adequate for the Amazonian reality.

## *2.3 Project strategy*

The term "degraded areas," spotlighted by the present study, means areas impacted by agricultural and ranching activities, with a focus on rural establishments, encompassing the permanent preservation areas (PPA) and legal reserve areas (LRA) (Figure 4). Two studies done previously showed that: i) in the Brazilian Amazon there are no pilot demonstration areas for recovery of degraded areas; and ii) enrichment of the secondary forest for production of timber and non-timber products in family agriculture plots, besides performing a productive role in the family economy, may also contribute towards environmental conservation.

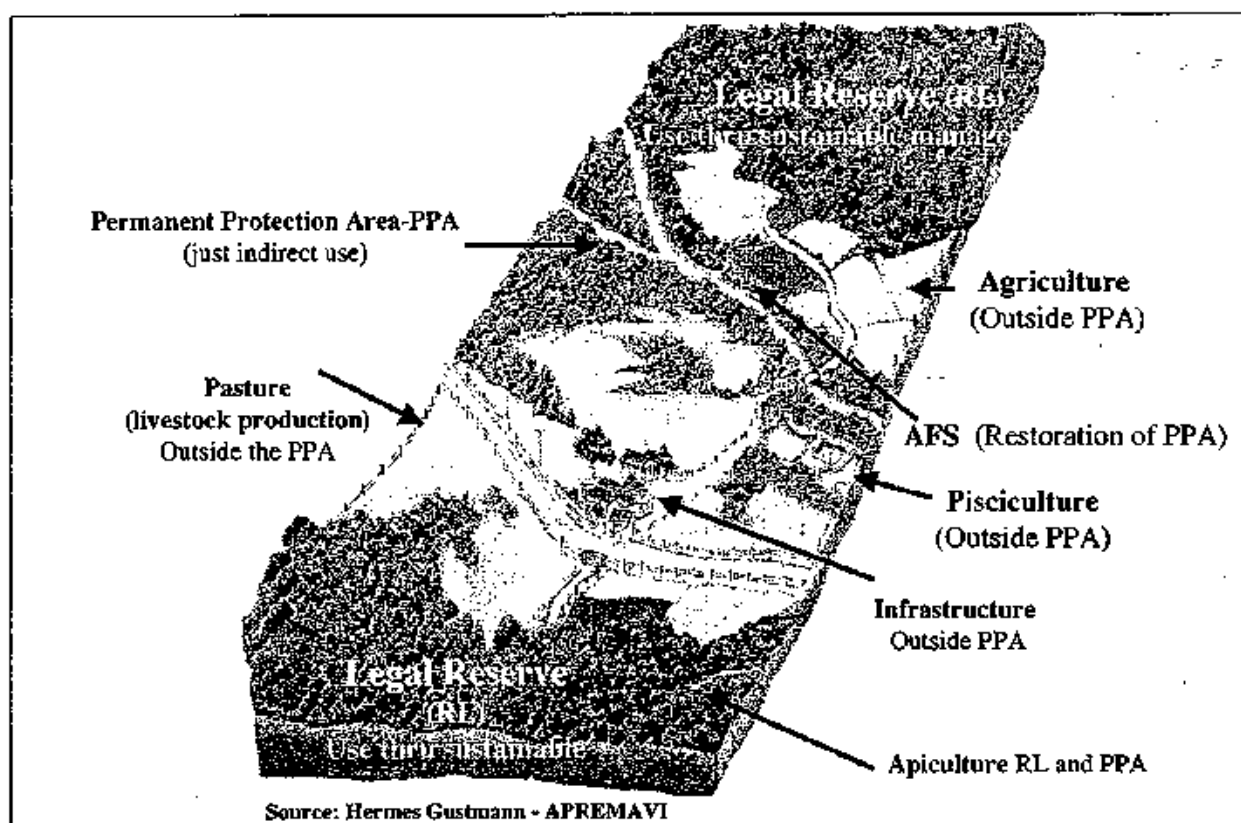


Figure 4. Scheme of legal rural property in the Brazilian Amazon

Differently from other projects, in the present proposal, research and development activities will be followed up by three field technicians, who, besides working to fulfill the proposed objectives, will also provide technical advice for the farmers in their day-to-day activities. In a previous activity, this form of work proved itself quite efficient in keeping the farmer partners motivated for working together.

The participatory management of the project through setting up a Steering Committee and Local Groups is also a strategy adopted so as to keep all the participants of the project updated in terms of accompanying the progress of all activities developed in the project.

#### 2.4 Target beneficiaries

The categories of participants with their respective functions in carrying out the project have been:

- **Proponent Institution (Embrapa Eastern Amazon):** is the executing agency, coordinate the project; co-aid in rendering accounts and interact with all the participating institutions.
- **Collaborative Administration Institution (FIDESA):** collaborative aid in administer the financial resources, and will help in preparing didactic materials to be distributed during the training courses.
- **Technical team from the Research Institutions** (Rural University of Amazon; Museum Paraense Emilio Goeldi; Center for International Forestry Research – CIFOR; Center for International Cooperation in Agronomical Research for Development – CIRAD; and Foundation Institute for Amazon Development – FIDESA): carry out activities planned for teaching, research, capacity-building and development, encourage the entry of new

partners, disseminate management of *capoeiras* in different forums (scientific, academic, general public) and provide technical advice to the partners.

- **Non Governmental Organization:** Live, Produce and Preserve Foundation – FVPP.
- **Rural Workers Unions of Bragança, Capitão Poço and Garrafão do Norte:** disseminate management of secondary forest internally and in different forums such as FETAGRI (Federation of Agricultural Workers in the State of Pará), CONTAG (National Confederation of Agricultural Workers), CUT (Unified Workers Central), mobilizations of the Grito da Terra movement, State and Municipal Secretariats of Agriculture, financing agents, technical advice agencies, and municipal public power; support project activities in mobilizing and holding events (courses, meetings, seminars).
- **Teaching Institutions:** Bragança Agricultural School (primary and middle level education), Juscelino Kubitschek School (secondary level professional training as forestry technicians), Campus of the Federal University of Pará in Bragança: free students to participate in the courses and aid in capacity-building of farmers (carrying out inventories, and other activities).
- **Producer Association in Carrapatinho and Igarapé Grande (Capitão Poço):** perform the same functions as the unions and disseminate techniques for *capoeira* management in collective management areas among associates.
- **Manager Partners** (farming families who own available *capoeira* and are interested in managing it): promote the recuperation of LRA and PPA; disseminate this idea among other producers; program themselves to participate in events promoted by the project; collect information and discuss it with the technicians; welcome people who want to learn about the areas being worked in; and take good care of the areas by facilitating access to them.

## 2.5 Technical and scientific aspects

### i) Capacity-building Courses

In each municipality in which the project is to be carried out, farmers interested in participating in the capacity-building courses will be identified. A course may be carried out in an agricultural community or in another favorable area that has infrastructure for accommodating people, rotating between the communities whenever possible. Planning meetings for the technical team will be done before presenting each course, to define those responsible for organizing the material (stand with white-board, colored markers, pastas, name tags, etc), *aide memoire*, photographic record of the event, food and transportation logistics, assistance for teachers before (preparing posters, panels, organizing teaching brochures) and during the course (distributing material, putting up posters, circulating attendance lists and other activities).

In each capacity-building course the technical team will employ theoretical content, didactic material and appropriate language, as well as a practical part that should be the strong point of the course. Every course will have written material (teaching brochures, detailed course outline) to be distributed among participants, for future consultation by users. So as to be compatible with the farmers' reality, each course will last 2 to 3 days (maximum), and will be planned for dates that do not interfere excessively with other activities. Preference will be given to weekends and courses will always be scheduled well beforehand, allowing partners to program themselves and adequate planning for logistics. During each course group dynamics will be used to optimize learning, stimulate participation and strengthen the ties between participants and instructors. Undergraduate students, scholarship students and trainees of the project, when participating in the courses, will receive specific tasks to aid in carrying them out. Every course will be

evaluated by the participants at the end of each day or at the end of the course. After each course the technical team will perform an internal assessment so as to correct possible technical (content, method, material) and logistical problems.

#### ii) Selection and monitoring of recovery of degraded areas

Because of partnerships previously established by the work team, in other research and development activities (See Part I, 3rd paragraph), the actions of this project will be carried out in the municipalities of Bragança, Capitão Poço, Garrafão do Norte (Northeast Pará) and in Altamira (Western Pará). The rural producers of these municipalities have an average age of 53 years, have always worked in rural areas and have some experience of living in urban areas; 62 % live on their properties; and the average number of children is six. The average size of the properties is 53 hectares (ha) in Bragança, 47 ha in Capitão Poço, 53 ha in Garrafão do Norte and 100 ha in Altamira. What follows is a brief description of the potential communities for selecting farming families owning areas that may be rehabilitated in the four municipalities.

#### Communities of the Municipality of Bragança

**Benjamin Constant:** located 20 km away from the municipal seat, it has a school for 1st to 4th grades and a large community shed for meetings and festivities. The transportation means are bus, truck, motorcycle and bicycle. The Tijoca river, which is not navigable, runs through the community and is only used for domestic purposes and for fishing.

**Enfarrusca:** located 15 km from the municipal seat, it has a school for 1st to 8th grades, community artesian well and piped water for community houses, electricity reaching the community and nearby, easily accessible road for cars and motorcycles (including during the rainy season) and collective transportation from Monday to Fridays.

**Genipau-Açu:** situated 55 km from the municipal seat (for the last 20 km the road becomes narrow and not easily accessible during the rainy season). Collective transportation is by truck. It has a large shed for meetings and festivities. Electricity has arrived recently and only for some houses. There is a school only for students in the 1st and 2nd grades, and, for the other grades, the children need to go to the neighboring community. The Genipau-Açu river, which was once navigable, passes by the city and nowadays is used for domestic purposes and fishing.

**Araçateua:** is located 9 km from the municipal seat. It has electricity until the community area, and also a school for 1st to 4th and a large shed for festivities. The road provides easy access for cars and motorcycles during the dry season; however, during the rainy season it becomes difficult.

**São Mateus:** situated 9 km from the municipal seat. It has difficulties with access only during the rainy season. It has a few creeks and wells dug near the houses for domestic consumption. There is no school, so the children must go to nearby communities or to the municipal seat to study.

#### Communities of the Municipality of Capitão Poço

**Igarapé Grande:** located 25 km from the municipal seat, to which it has road with easy access year-round. It has electricity until the community area and nearby. The most used means of transportation are collective bus, motorcycle and bicycle. It has a community hall



and a school for 1st to 4th grades. There are various creeks, which dry up during the dry season; however, the largest serves not only for domestic consumption but also as a resort area used by the community.

**Pacuí Claro:** located 45 km from the municipal seat, to which it has road with easy access year-round. In the community area it has a large shed, which is used for holding meetings and festivities, and may also house participants in courses. It has a school for 1st to 4th grades.

**Carrapatinho:** located 20 km from the municipal seat, to which it has a road with easy access during the dry season and precarious access during the rainy season. It does not have electricity. It has a Rural Workers center, with a place for housing participants and holding meetings and courses. It is located on the banks of the Guamá river, with several of its tributaries running through the community. It has a school for 1st to 4th grades.

**Nova Colônia:** located 7 km from the municipal seat, to which it has road with easy access year-round. It has electricity reaching the community and nearby. It also has a large shed for housing participants and holding meetings and courses. It has a municipal elementary school for grades 1 to 4.

**Bom Jardim:** at a distance of 32 km, by dirt road with difficulties in access during rains. It has electricity only in the central part of the community, school for up to 4th grade and community hall for meetings.

#### Communities of the Municipality of Garrafão do Norte

**Maçaranduba:** located 45 km from the municipal seat, by a reasonably accessible road for cars and motorcycles year-round. Electricity in the community comes from a motor-generator, and goes only until 10 PM. It has a school for 1st to 4th grades and a large shed for festivities, a space that may be used for housing participants and holding meetings and courses.

**Angelim:** located 50 km from the municipal seat, it has the same access and infrastructure conditions that were cited for the community of Maçaranduba.

**Arapuã:** at a distance of 80 km from the municipal seat, it is a settlement area on the banks of the upper Guamá river. It has good access roads. It has electricity, a place to hold meetings and courses, schools for 1st to 4th grades.

**Cimeira:** at a distance of 82 km from the municipal seat, it is also a settlement area and has the same infrastructure cited for the community of Arapuã.

**Jericó:** at a distance of 40 km from the municipal seat, it also has a road with reasonably good year-round access. It has infrastructure similar to that of Maçaranduba, except for electricity.

**Açaizal:** at a distance of 60 km from the municipal seat, it has infrastructure similar to that of the others.

#### Municipality of Altamira

In Altamira the families will be chosen in the region of Gleba Assurini (directed and spontaneous settlement areas established from 1980 to 1990), based on meetings to be held with support from the local partner organization FVPP.

#### **Number of families to be involved in the project and area to be recovered**

As to the number of families to be involved in the rehabilitation process for altered areas, we originally planned to start with some 15 families in each of the 4 municipalities, totaling 60 families. These families will belong to various communities in each municipality. The quantity of families per municipality is determined as a result of the capacity of the technician who will remain in the field (see TOR 3) to provide adequate and high quality technical support. Each of these 60 families will have conditions to produce around 1300 seedlings of species to be utilized in rehabilitating an area that should be at around 1 hectare. The selection of new families will be done through the Steering Committee and the Local Committee. Some criteria suggested for discussing this theme are:

- a) practice family agriculture;
- b) own a permanent preservation area and/or legal reserve needing rehabilitation;
- c) interest in becoming involved in the project without receiving payments;
- d) have an "entrepreneurial spirit"; and
- e) have time available for project activities.

For installing these demonstration units, which will be more scientifically rigorous (in being set up and conducted), the technical team will select 5 units undergoing rehabilitation in each one of the municipalities (totaling 20 units), which represent the different floristic/productive arrangements questions of strategic location on the property (if in a permanent preservation or legal reserve area). Of these 20 demonstration units, the most detailed and rigorous monitoring of the biophysical and geochemical variables will be conducted in 9 demonstrative units, during 12 months after installation. Based on the information collected a monitoring system for degraded areas undergoing the recuperation process will be constructed, attending to the local reality. Its results will be compared to the guidelines prepared by the ITTO, with a view to making adjustments.

#### **Types of Areas to be Recovered**

After selection of the partners, the recuperation systems will be established according to the type of area to be used (Figure 5). Although the farmers have different situations for rehabilitation activities (Figure 5), the present project will prioritize activities of: i) enrichment of secondary forest by planting native tree species and, ii) planting a mix of native trees in abandoned agricultural areas. In both cases, the aforementioned activities will be directed towards legal reserve areas (ARL) and permanent preservation areas

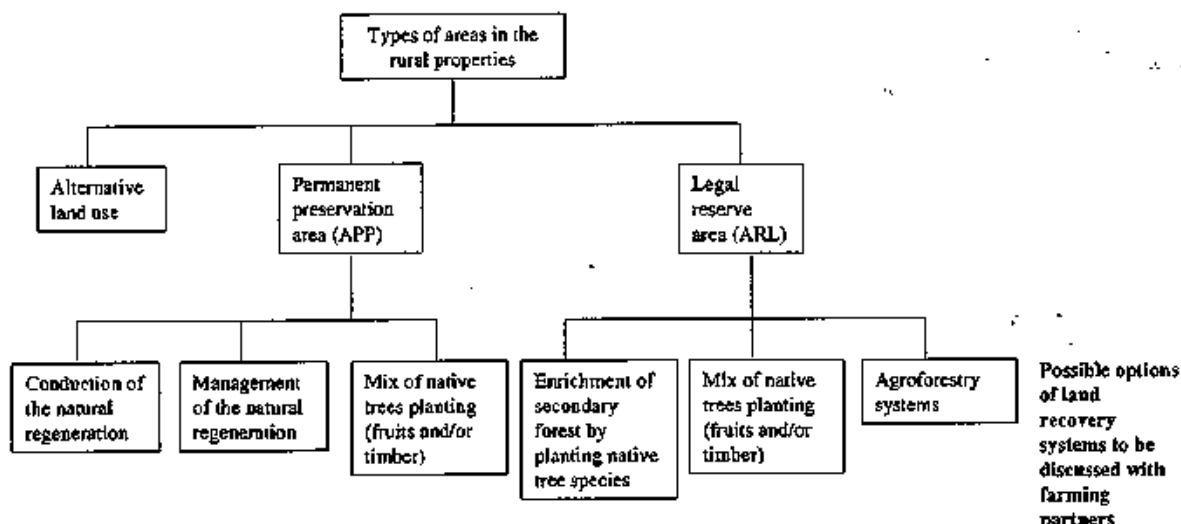


Figure 5. Type of degraded areas to be used for recuperation with farmers within participatory approach

### iii) Adjustment of environmental legislation

It is vitally important, in this case, to hold workshops to discuss with farmer partners the problems and possible solutions for environmental legislation now in force. The partnership with IBAMA, in this case, will help to construct a vision of an educational institution instead of a punitive institution. There will be an in-depth study of legislation in force so as to point out adjustments that are compatible with regional reality.

### iv) Dissemination of the project

To disseminate project activities several products will be produced so as to effectively reach the target audience. For example, teaching brochures and detailed course outlines will be produced in a didactic format that will arouse interest among participants of the courses, including the young people, who are excellent opinion formers in the families. Leaflets also are alternatives to be considered for different audiences. Besides these products it is important that dissemination of the results achieved by the project also be effected through production of technical-scientific and/or popular articles for publication in newspapers and periodicals, as well as besides elaboration of a project home page.

## 2.6 Economic aspects

In the municipalities that will be focused on by the project, agricultural production is by families and is mainly based on subsistence crops (rice, beans, manioc and corn). However, perennial and semi perennial crops such as black pepper, oranges and passionfruit have increased especially in Capitão Poço, Bragança Capitão Poço, and Altamira are linked to market factors (such as labor, inputs, equipment, etc.) and to products that can be marketed by all-weather roads year round. Garrafão do Norte is linked to Capitão Poço by a precarious road during some periods of the year. The four municipalities have significant areas of secondary forests.

In aggregate terms, five basic activities (annual crops, perennial and semi-perennial crops, agroforestry intercropping and ranching) are of interest to the farmers in the municipalities selected.

Land productivity is currently considerably less than when they arrived in their areas, due to the intense rotation imposed on the soil over the years, except in Garrafão do Norte. Only 43% utilize some type of agricultural input, mostly those planting beans. Most leave the area fallow after harvesting the annual crops, to form secondary forest so as to recover soil fertility and control diseases.

Utilization of products from the secondary forest is not among the farmers' productive priorities. Nonetheless, recent studies done in Northeastern Pará (municipalities of Bragança, Maracanã, Igarapé Açu, Capitão Poço and Garrafão do Norte) indicate that products derived from secondary forests (timber and non-timber) are significantly important in the domestic economy, such as: firewood, wood for rural construction, fruits for food (ingá – *Inga edulis*, bacuri – *Platonia insignis*, muruci – *Byrsonima crassifolia*, inajá – *Maximiliana maripa*, etc.), medicinal products, material for handicrafts, and other uses (Final report – Phase I – Productive Management Project for Secondary Forests, 1999). Additionally, in Capitão Poço, production of honey derived from secondary forest has been growing in recent years.

One third of agricultural production disappears (33% in Bragança, 30% in Capitão Poço and 29% in Garrafão do Norte) is consumed by the farmers themselves and is not part of official statistics, thus becoming an "invisible harvest," which is nonetheless important for survival strategies. The rest is sold in nearby cities or to intermediary buyers who come to the property.

Part of total family income comes from off-farm revenue (outside labor, retirement pensions or help from children), amounting to 26% in Bragança, 32% in Capitão Poço and 27% in Garrafão do Norte.

## 2.7 Environmental aspects

Landscape studies done in the Bragantina Micro-region have demonstrated that some municipalities have retained only 15% of their original forest cover (Nova Timboteua, Peixe-Boi and Capanema), and others only 5% (Igarapé-Açu). Recent research has revealed that between 15-20% of areas on the properties is made up of secondary forests more than 10 years old, and some 5% of forests more than 20 years old.

The average for utilization of the areas with agricultural crops is practically the same (about 13%) in the municipalities to be in the project. Pasture accounts for 15% in Capitão Poço, 21% in Garrafão do Norte and only 2% in Bragança. Areas with secondary forest, of various ages, occupy 79% of the properties in Bragança, 55% in Capitão Poço and 20% in Garrafão do Norte.

## 2.8 Social aspects

Social participation in the present proposal will happen in two forms. The first will be with the capacity-building courses that will be taught directly to family farmers, as well as through discussions on environmental legislation and property use planning. Furthermore, the results to be achieved will serve as a basis for supporting public policies. The second form of social participation will happen through partnerships to be established with representative class institutions or will come about more directly through the third goal (Strengthen implantation of a demonstration pole for recuperation of altered areas). In the municipalities chosen for action by the project, the origin of the beneficiaries does not differ greatly. These are people who have always worked in the rural area and have some experience living in urban areas. The majority live on their properties and all the beneficiaries have control over the natural resources available in their areas.

The partner Rural Workers Unions and the FVPP are noteworthy for their efforts to improve living conditions in political, social and economic terms. Regarding land use and ownership in the regions where the project will be acting, there are no situations of conflict nor problems with land invasions.

## **2.9 Risks**

Carrying out experiments in the Amazon is always subject to risks and difficulties, such as:

a) *farmer partners dropping out during the project*: the process for choosing farmer partners will be participatory. In such a process it is always important to clearly present the actions to be carried out, always seeking to maintain the interest of the farmers in the partnership in all stages of the work;

b) *occurrence of uncontrolled fires*: care in avoiding occurrence of accidental fires will be taken throughout the duration of the present proposal through conversations, clarification and capacity-building courses for the farmer partners;

c) *delay in transferring resources*: so that there are no problems with work continuity, it is suggested that there be adequate follow-up to free resources on the part of the ITTO and Embrapa.

## **3. Outputs**

**3.1 Specific Objective 1** – Establish a demonstration network for recovery of degraded legal reserve and permanent preservation areas in family properties in the Eastern Brazilian Amazon.

*Output 1.1*: At least 150 family farmers in the Eastern Amazon capacitated in strategies of recovery of degraded areas

*Output 1.2*: At least 20 demonstration units of recuperation of altered areas installed

*Output 1.3*: Environmental legislation evaluated and proposals for adjustments to the conditions of family agriculture in the Eastern Amazon suggested

*Output 1.4*: Technical-didactical material on strategies for recovery of degraded areas and environmental legislation produced and distributed

*Output 1.5*: Participatory Management of the Research and Development Project

**3.2 Specific Objective 2** – Elaborate a monitoring system for degraded areas undergoing the recuperation process

*Output 2.1*: System for monitoring recovery of degraded areas developed that will meet conditions in the Eastern Amazon

## **4. Activities**

**4.1 Output 1.1**: At least 150 family farmers in the Eastern Amazon capacitated in strategies of recovery of degraded areas

*Activity 1.1.1: Holding of 1 course for 50 people on seed collection and seedling production*

*Activity 1.1.2: Holding of 3 courses for 150 people on strategies for recovery of degraded areas*

*Activity 1.1.3: Holding of 3 courses for 150 people on techniques for community prevention and control of fires*

*4.2 Output 1.2: At least 20 demonstration units of recuperation of altered areas installed*

*Activity 1.2.1: Select areas to be recuperated*

*Activity 1.2.2: Selection of species and establishment of nurseries for production of 80 thousand seedlings*

*Activity 1.2.3: Participatory elaboration of utilization plans for properties and strategy for recuperation of the degraded areas*

*Activity 1.2.4: Implantation of 20 demonstration units of recuperation of altered areas*

*Activity 1.2.5: Technical advice for 60 families in following up recuperation actions*

*4.3 Output 1.3: Environmental legislation evaluated and proposals for adjustments to the conditions of family agriculture in the Eastern Amazon suggested*

*Activity 1.3.1: Holding of 3 workshops for discussing the environmental legislation now in force*

*Activity 1.3.2: Holding of a study on environmental legislation now in force and how to better adjust it to socioeconomic conditions of the communities in the Eastern Amazon*

*Activity 1.3.3: Production of report containing propositions for adjustment of legislation*

*4.4 Output 1.4: Technical-didactical material on strategies for recovery of degraded areas and environmental legislation produced and distributed*

*Activity 1.4.1: Production and publication of at least 4 technical-scientific articles*

*Activity 1.4.2: Production, publication and distribution of didactic material (4 teaching brochures)*

*4.5 Output 1.5: Participatory Management of the Research and Development Project*

*Activity 1.5.1: Contracting and maintaining the technical team*

*Activity 1.5.2: Acquisition and maintenance of vehicles, equipment and work infrastructure*

*Activity 1.5.3: Periodic meetings for planning and evaluation of activities for management, capacity-building and recuperation of areas*

*Activity 1.5.4: Administration of resources, rendering of accounts and preparation of technical-financial reports*

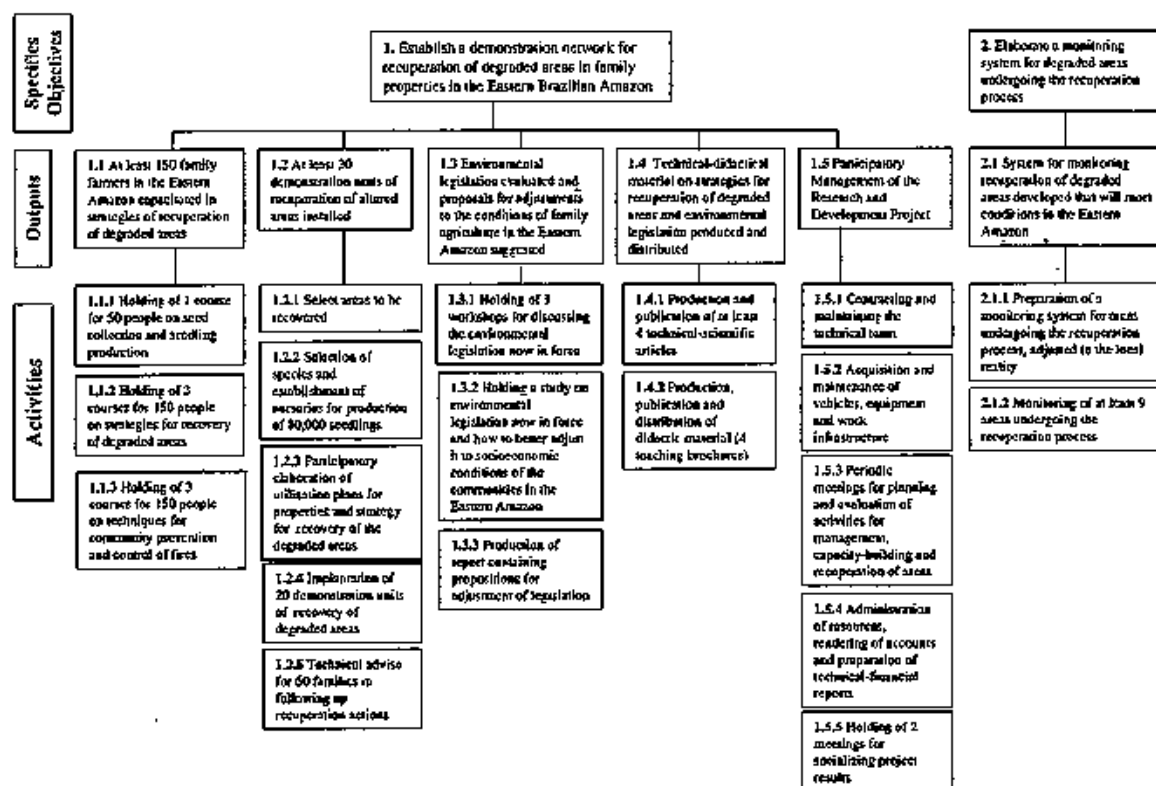
*Activity 1.5.5: Holding of 2 meetings for socializing project results*

4.6 Output 2.1: System for monitoring recovery of degraded areas developed that will meet conditions in the Eastern Amazon

*Activity 2.1.1:* Preparation of a monitoring system for areas undergoing the recuperation process, adjusted to the local reality

*Activity 2.1.2:* Monitoring of at least 9 areas undergoing the recuperation process

## WORK BREAKDOWN STRUCTURE



## 5. Logical Framework Worksheets

### 5.1 Project elements, indicators, means of verification and important assumptions

PROJECT ELEMENTS	INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
<u>Development Objective:</u> Protecting and recuperation of permanent preservation areas and legal reserve, in family production units in the Eastern Brazilian Amazon seeking to reduce impacts resulting from agricultural and forestry practices	<ul style="list-style-type: none"> <li>- Different local actors sensitized and capacitated</li> <li>- Network of experiences in recovery of degraded areas established</li> <li>- Utilization plans for properties elaborated</li> </ul>	<ul style="list-style-type: none"> <li>- Local actors sensitized towards forest recuperation and conservation of PPA and LRA</li> <li>- Farmers apply recuperation techniques</li> <li>- Technical reporters</li> </ul>	<ul style="list-style-type: none"> <li>- Lack of policies for incentives for recovery of degraded areas</li> <li>- Lack of knowledge among local population about;</li> <li>- Financial resources released to plan</li> <li>- Farmers being involved in recovery of degraded land process</li> </ul>



PROJECT ELEMENTS	INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
<u>Specific Objective 1:</u> Establish a demonstration network for recovery of degraded legal reserve and permanent preservation areas in family properties in the Eastern Brazilian Amazon	- Demonstrative areas undergoing the recuperation process, installed in 4 municipalities in the Eastern Brazilian Amazon	- Visit to the demonstrative areas	- Farmers are available to install demonstrative plots
<u>Output 1.1:</u> At least 150 family farmers in the Eastern Amazon capacitated in strategies of recovery of degraded areas	- Social actors sensitized regarding the importance of maintaining vegetation along water bodies - Farmers sensitized regarding the importance of recuperating vegetation along water bodies	- Courses held and list of participants - Reports elaborated - Participants of the courses describe and/or apply techniques for recuperating permanent preservation areas.	- Farmers and technicians interested in participating in the capacity building process - Choice of adequate location, didactic material and language for holding capacity building courses - Pos capacity building course evaluation for fail correction
<u>Output 1.2:</u> At least 20 demonstration units for recuperation of altered areas installed	- At least 5 demonstration units of recovery of degraded legal reserve and permanent areas installed - Farmers producing enough seedlings for planting - Network of experiences in recovery of degraded areas established	- Nurseries for production of 80 thousand seedlings installed - Different local/regional arrangements for seedlings production - Number of species used for planting - Visits to the demonstrative units	- Establishment of referential on recuperation of altered areas - Finding available farmers to initiate process of recovery of degraded land - Technical and environmental conditions are enough to install demonstrative units during planned time - Seedlings are produced with quality and sufficient number to attend demonstration units

PROJECT ELEMENTS	INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
<i>Output 1.3:</i> Environmental legislation evaluated and proposals for adjustments to the conditions of family agriculture in the Eastern Amazon suggested	<ul style="list-style-type: none"> <li>- Need for adjustment of environmental legislation now in force</li> <li>- At least 3 workshops about environmental legislation realized</li> </ul>	<ul style="list-style-type: none"> <li>- Meetings held and reports</li> </ul>	<ul style="list-style-type: none"> <li>- Policy makers and farmers show interest in discussing legal reserve and permanent preservation areas for family agriculture</li> <li>- Legal questions about land tenure and natural resources use are not difficulties for productions activities and recovery of degraded legal reserve and permanent areas</li> </ul>
<i>Output 1.4:</i> Technical-didactical material on strategies for recovery of degraded areas and environmental legislation produced and distributed	<ul style="list-style-type: none"> <li>- Didactic and technical material about recovery of degraded areas, environmental legislation, fire management, and forest seed collection and seedling production produced and elaborated</li> <li>- At least 5 technical papers produced</li> </ul>	<ul style="list-style-type: none"> <li>- Publications produced and distributed</li> </ul>	<ul style="list-style-type: none"> <li>- Didactic materials produced informing different audiences</li> </ul>

PROJECT ELEMENTS	INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
<u>Output 1.5:</u> Participatory Management of the Research and Development Project	<ul style="list-style-type: none"> <li>- Different project actors having participatory management of the project (project staff, local committee and steering committee)</li> <li>- Activities executed according to planned</li> <li>- Project auditors discussing the project activities</li> <li>- Vehicles, equipments and infrastructure working</li> </ul>	<ul style="list-style-type: none"> <li>- Local committee and Steering Committee installed and functioning</li> <li>- Technical Reports</li> <li>- Auditors reports distributed</li> <li>- Documents of vehicle and equipments</li> </ul>	<ul style="list-style-type: none"> <li>- Steering Committee representing decision-making level for all decisions during the life of the project</li> <li>- All project participants showing interest in participate the planning meetings</li> <li>- Auditors sensible to the Amazon reality and with comminatory and participatory questions</li> <li>- Executing institutions responsible for vehicle tax and insurance</li> </ul>
<u>Specific Objective 2:</u> Preparation of um monitoring system for degraded areas undergoing the recuperation process	<ul style="list-style-type: none"> <li>- Guiding protocol for monitoring of areas undergoing the recuperation process elaborated</li> </ul>	<ul style="list-style-type: none"> <li>- Meetings held and reports</li> </ul>	<ul style="list-style-type: none"> <li>- Institutions partners contributing to elaborate a monitoring system for degraded areas undergoing the recuperation process</li> </ul>
<u>Output 2.1:</u> System for monitoring recovery of degraded areas developed, which attends to conditions in the Eastern Amazon	<ul style="list-style-type: none"> <li>- Lack of a guiding protocol for monitoring of areas undergoing the recuperation process</li> </ul>	<ul style="list-style-type: none"> <li>- Papers published; reports; collected data</li> </ul>	<ul style="list-style-type: none"> <li>- Monitoring system prepared to serve as a guiding tool for different levels of government</li> </ul>

## 5.2 Project activities, inputs and input categories

ACTIVITIES	INPUTS	INPUT CATEGORIES
1.1.1: Holding of 1 course for 50 people on seed collection and seedling production	Project staff; meetings	Project personnel: coordinator, technicians, partners Consumables items: office, computer, printer, leaflets, office supplies, terrestrial and aerial passages, fuel and food, rent of vehicle
1.1.2: Holding of 3 courses for 150 people on strategies for recovery of degraded areas	Project staff; meetings	Project personnel: coordinator, technicians, partners Consumables items: office, computer, printer, leaflets, office supplies, terrestrial and aerial passages, fuel and food, rent of vehicle Consultant: permanent preservation area and legal reserve area
1.1.3: Holding of 3 courses for 150 people on techniques for community prevention and control of fires	Project staff; meetings	Project personnel: coordinator, technicians, partners Consumables items: office, computer, printer, leaflets, office supplies, terrestrial and aerial passages, fuel and food, rent of vehicle
1.2.1: Select areas to be recuperated	Project coordinator, project staff	Project personnel: Project coordinator, technical staff Consumable items: fuel, Duty travel Capital items: 4WD vehicle
1.2.2: Selection of species and establishment of nurseries for production of 80 thousand seedlings	Project coordinator, project staff, local groups meetings	Project personnel: Project coordinator, technical staff Consumable items: material for forest nurseries Duty travel Fellowship: training student
1.2.3: Participatory elaboration of utilization plans for properties and strategy for recuperation of the degraded areas	Project coordinator, project staff, local groups meetings	Project personnel: coordinator, technicians, partners Consumables items: office, computer, printer, leaflets, office supplies, terrestrial and aerial passages, fuel, food, satellite images and maps Duty travel Capital items: 4WD vehicle Fellowship: training student

ACTIVITIES	INPUTS	INPUT CATEGORIES
1.2.4: Implantation of 20 demonstration units of recuperation of altered areas	Project coordinator, project staff, local groups meetings	Project personnel: coordinator, technicians; partners Consumables items: fuel Duty travel Capital items: 4WD vehicle Fellowship: training student
1.2.5: Technical advice for 60 families in following up recuperation actions	Project coordinator, technician staff	Project personnel: coordinator, technicians, partners Consumables items: fuel Capital items: motorcycles
1.3.1: Holding of 3 workshops for discussing the environmental legislation now in force	Project coordinator, project staff, local groups meetings	Project personnel: coordinator, technicians, partners Consumables items: office, computer, printer, leaflets, office supplies, terrestrial and aerial passages, fuel and food, rent of vehicle Consultant: environmental legislation Fellowship: training student
1.3.2: Holding of a study on environmental legislation now in force and how to better adjust it to socioeconomic conditions of the communities in the Eastern Amazon	Project coordinator, Project staff, local groups meetings	Project personnel: coordinator, technicians, partners Consultant: environmental legislation Fellowship: training student
1.3.3: Production of report containing propositions for adjustment of legislation	Project coordinator, Project staff	Project personnel: coordinator, technicians, partners Consultant: environmental legislation Fellowship: training student
1.4.1: Production and publication of at least 4 technical-scientific articles	Project coordinator, Project staff	Project personnel: coordinator, technicians, partners Consultant: environmental legislation Consumable items Fellowship: training student
1.4.2: Production, publication and distribution of didactic material (4 teaching brochures)	Project staff, sub-contract	Project personnel: coordinator, technicians, partners Consultant: environmental legislation Sub-contract: printing services Fellowship: training student
1.5.1: Contracting and maintaining the technical team	Project coordinator, project staff	Project personnel: coordinator, technicians, partners

ACTIVITIES	INPUTS	INPUT CATEGORIES
1.5.2: Acquisition and maintenance of vehicles, equipment and work infrastructure	Project coordinator, sub-contract, technician staff	Project personnel: coordinator, technicians, partners Capital items: 4WD vehicle, motorcycle, Capital equipment: computers, partner's equipments using, equipment for field monitoring Consumables items: general material, fuel and utilities, and office supplies Miscellaneous: sundry
1.5.3: Periodic meetings for planning and evaluation of activities for management, capacity-building and recuperation of areas	Project coordinator, project staff, local groups meetings, steering committee	Project personnel: coordinator, technicians, partners Consumables items: terrestrial and aerial passages, food
1.5.4: Administration of resources, rendering of accounts and preparation of technical-financial reports	Project coordinator, project staff	Project personnel: coordinator, technicians, partners Consumables items: aerial passages
1.5.5: Holding of 2 meetings for socializing project results	Project coordinator, project staff, local groups meetings, steering committee	Project personnel: coordinator, technicians, partners Consumables items: terrestrial and aerial passages, fuel and food Duty travel
2.1.1: Preparation of a monitoring system for areas undergoing the recuperation process, adjusted to the local reality	Project coordinator, project staff, technical meetings, local groups meetings, steering committee	Project personnel: coordinator, technicians, partners
2.1.2: Monitoring of at least 9 areas undergoing the recuperation process -	Project coordinator, project staff	Project personnel: coordinator, technicians, partners Consumables items: terrestrial and aerial passages, fuel and food Duty travel

## 6. Work Plan

Outputs/Activities	Responsible Party	SCHEDULE (in months)																							
		Year 1												Year 2											
		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
Output 1.1: At least 150 family farmers in the Eastern Amazon capacitated in strategies of recovery of degraded areas																									
Activities:																									
1.1.1: Holding of 1 course for 50 people on seed collection and seedling production	Embrapa			X																					

Outputs/Activities	Responsible Party	SCHEDULE (in months)																							
		Year 1												Year 2											
		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
1.1.2: Holding of 3 courses for 150 people on strategies for recovery of degraded areas	Embrapa, Consultant								X	X	X														
1.1.3 Holding of 3 courses for 150 people on techniques for community prevention and control of fires	Embrapa															X	X								
Output 1.2: At least 20 demonstration units of recuperation of altered areas installed																									
Activities:																									
1.2.1: Select areas to be recuperated	Embrapa				X	X	X	X	X																
1.2.2: Selection of species and establishment of nurseries for production of 80 thousand seedlings	Embrapa Unions					X	X	X	X	X	X	X	X	X	X										
1.2.3: Participatory elaboration of utilization plans for properties and strategy for recuperation of the degraded areas	Embrapa, Cifor, Cirad Unions						X	X	X	X	X	X	X	X	X	X	X	X	X						
1.2.4 Implantation of 20 demonstration units of recuperation of altered areas	Embrapa, Unions, Cifor, e Cirad							X	X	X	X	X													
1.2.5 Technical advice for 60 families in following up recuperation actions	Technician	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Output 1.3: Environmental legislation evaluated and proposals for adjustments to the conditions of family agriculture in the Eastern Amazon suggested	Embrapa, Consultant, Itama																								
Activities:																									
1.3.1 Holding of 3 workshops for discussing the environmental legislation now in force	Embrapa, Itama, Cirad, Cifor, Unions								X	X	X														
1.3.2 Holding of a study on environmental legislation now in force and how to better adjust it to socioeconomic conditions of the communities in the Eastern Amazon	Embrapa, Itama, Cirad, Cifor, Unions											X	X	X	X	X	X	X	X	X	X				
1.3.3 Production of report containing propositions for adjustment of legislation	Embrapa, Itama, Cirad, Cifor																			X	X				
Output 1.4: Technical-didactical material on strategies for recovery of degraded areas and environmental legislation produced and distributed																									
Activities:																									
1.4.1 Production and publication of at least 4 technical-scientific articles	Technical Staff						X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X			
1.4.2 Production, publication and distribution of didactic material (4 teaching brochures)	Technical Staff Fidesa		X					X	X					X											

Outputs/Activities	Responsible Party	SCHEDULE (in months)																							
		Year 1												Year 2											
		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
<b>Output 1.5: Participatory Management of the Research and Development Project</b>																									
Activities:																									
1.5.1 Contracting and maintaining the technical team	Fidesa and Embrapa	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
1.5.2 Acquisition and maintenance of vehicles, equipment and work infrastructure	Fidesa and Embrapa	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
1.5.3 Periodic meetings for planning and evaluation of activities for management, capacity-building and recuperation of areas	Embrapa, Cifor, Cirad, Unions, Fidesa, and Ufra			X					X							X							X		
1.5.4 Administration of resources, rendering of accounts and preparation of technical-financial reports	Fidesa and Embrapa	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
1.5.5 Holding of 2 meetings for socializing project results	Embrapa																						X	X	
<b>Output 2.1: System for monitoring recovery of degraded areas developed that will meet conditions in the Eastern Amazon</b>	Embrapa, Cifor, Cirad, and Unions																								
Activities:																									
2.1.1: Preparation of a monitoring system for areas undergoing the recuperation process, adjusted to the local reality	Embrapa, Cifor, Cirad, and Unions								X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
2.1.2: Monitoring of at least 9 areas undergoing the recuperation process	Embrapa, Cifor, Cirad			X			X			X				X			X		X			X			



## 7. Budget

## 7.1. Overall Project Budget by Activity - US\$ (I - ITTO or II - Executing Agencies)

Outputs and Activities	Budget Components							GRAND TOTAL
	16. Project Personnel	26. Sub-contracts	34. Daily Travel	44. Capital Items	54. Consumable Items	60. Miscellaneous	Quarter Year	
Output 1.1: At least 150 family farmers in the Eastern Amazon capacitated in strategies of recuperation of degraded areas								
1.1.1: Holding of 1 course for 50 people on seed collection and seedling production (Altamira)			1,200 I		190 I	1,200 I	Q1 Y1	2,590
1.1.2: Holding of 3 courses for 150 people on strategies for recuperation of degraded areas	1,600 I		2,615 I		390 I	3,600 I	Q3 & 4 Y1	7,605
1.1.3: Holding of 3 courses for 150 people on techniques for community prevention and control of fires			1,410 I		390 I	3,600 I	Q5 Y2	5,400
subtotal 1.1	1,600 I	0	5,225 I	0	970 I	8,400 I		15,595
Output 1.2: At least 20 demonstration units of recuperation of altered areas installed								
1.2.1: Select areas to be recuperated			1,600 I		480 I		Q2 & 3 Y1	2,080
1.2.2: Selection of species and establishment of nurseries for production of 80 thousand seedlings					5,320 I		Q2, 3 & 4 Y1 Q5 Y2	5,320
1.2.3: Participatory elaboration of utilization plans for properties and strategy for recuperation of the degraded areas			2,580 I		3,800 I	480 I	Q2, 3 & 4 Y1 Q5 & 6 Y2	6,860
1.2.4: Implantation of 20 demonstration units of recuperation of altered areas			480 I		320 I		Q3 & 4 Y1 Q7 & 8 Y2	800
1.2.5: Technical advice for 60 families in following up recuperation actions					3,840 I		Q1, 2, 3 & 4 Y1 Q5, 6, 7 & 8 Y2	3,840
subtotal 1.2	0	0	4,660 I	0	13,760 I	480 I		18,900
Output 1.3: Environmental legislation evaluated and proposals for adjustments to the conditions of family agriculture in the Eastern Amazon suggested								
1.3.1: Holding of 3 workshops for discussing the environmental legislation now in the force			1,260 I		390 I	1,440 I	Q2 & 4 Y1	3,090
1.3.2: Holding of a study on environmental legislation now in force and how to better adjust it to socioeconomic conditions of the communities in the Eastern Amazon	5,000 I						Q4 Y1 Q5, 6 & 7 Y2	5,000
1.3.3: Production of report containing propositions for adjustment of legislation							Q7 & 8 Y2	0
subtotal 1.3	5,000 I	0	1,260 I	0 I	390 I	1,440 I		8,090
Output 1.4: Technical-didactical material on strategies for recuperation of degraded areas and environmental legislation produced and distributed								
1.4.1: Production and publication of at least 4 technical-scientific articles					2,000 I		Q3 & 4 Y1 Q6 & 8 Y2	2,000
1.4.2: Production, publication and distribution of didactic material (4 teaching brochures)		5,000 I					Q3 & 4 Y1 Q5 Y2	5,000
subtotal 1.4	0	5,000 I	0	0	2,000 I	0		7,000
Output 1.5: Participatory Management of the Research and Development Project								
1.5.1: Contracting and maintaining the technical team	120,000 I						Q4, 5, 6 & 7 Y1 Q8 & 9 Y2	120,000
	127,300 E							127,300
1.5.2: Acquisition and maintenance of vehicles, equipment and work infrastructure				33,650 I	16,380 I	9,540 I	Q1, 2, 3 & 4 Y1 Q5, 6, 7 & 8 Y2	59,570
				38,400 E	6,000 E			44,400
1.5.3: Periodic meetings for planning and evaluation of activities for management of areas			2,540 I			640 I	Q4, 5 Y1 Q6 & 7 Y2	3,180
1.5.4: Administration of resources, rendering of accounts and preparation of technical-financial reports			2,960 I				Q1, 2, 3 & 4 Y1 Q5, 6, 7 & 8 Y2	2,960
						20,000 E		20,000
1.5.5: Holding of 2 meetings for socializing project results			2,575 I		480 I	4,000 I	Q8 Y2	7,055
subtotal 1.5 (I)	120,000 I	0 I	5,075 I	33,650 I	16,860 I	14,180 I		192,775
subtotal 1.5 (E)	127,300 E	0	0	38,400 E	6,000 E	20,000 E		191,700
subtotal 1.5 (E+I)	247,300 E	0 E	5,075 E	72,050 E	22,860 E	34,180 E		384,475
Output 2.1: System for monitoring recuperation of degraded areas developed that will meet conditions in the Eastern Amazon								
2.1.1: Preparation of a monitoring system for areas undergoing the recuperation process, adjusted to the local reality							Q8, 9 & 4 Y1 Q8 Y2	0
2.1.2: Monitoring of at least 9 areas undergoing the recuperation process		3,000 I	3,680 I		960 I			7,640
subtotal 2.1	0	3,000 I	3,680 I	0	960 I	0		7,640
Sub-total ITTO	126,000	8,000	22,900	33,650	34,940	24,510		250,000
Sub-total Executing Agency	127,300	0	0	38,400	6,000	20,000		191,700
TOTAL (I+E)	441,700							
Monitoring & Evaluation Costs ITTO	50,000							
Administrative Costs ITTO	24,000							
TOTAL	515,700							

## 7.2. Yearly Project Budget by Source (US\$) - ITTO

	Budget Components	TOTAL ITTO	YEAR 1	YEAR 2
<b>10</b>	<b>Project Personnel</b>			
<b>11</b>	<b>National Experts</b>			
11.1	Specialist for participatory approach and community fire management (US\$1550/mo)	37.200	18.600	18.600
11.2	Technician for advise in community management work (2 x \$ 800/mo)	38.400	19.200	19.200
11.3	Assistant Researches (\$ 800/mo)	19.200	9.600	9.600
11.4	Technician for advise in community management work (Altamira - part time) - \$ 300/mo	7.200	3.600	3.600
11.5	Assistant coordinator (\$625/mo)	15.000	7.500	7.500
<b>12</b>	<b>National Consultants</b>			
12.1	Consultant in recuperation of altered areas (PPA) and legal reserves (LR) - for exchange knowledge purposes	1.000	1.000	0
12.2	Consultant in environmental legislation (PPA and LR)	5.000	2.500	2.500
<b>14</b>	<b>Fellowships and Training</b>			
14.1	Fellowships and Training Students (3 x \$100/mo)	7.200	3.600	3.600
<b>19</b>	<b>Total component Project Personnel</b>	<b>130.200</b>	<b>65.600</b>	<b>64.600</b>
<b>20</b>	<b>Sub-contracts</b>			
24	Printing services - didactic material	5.000	3.800	1.200
<b>29</b>	<b>Total component Sub-contracts</b>	<b>5.000</b>	<b>3.800</b>	<b>1.200</b>
<b>30</b>	<b>Duty Travel</b>			
<b>31</b>	<b>Daily Subsistence Allowance</b>			
31.1	Daily for training \$25	2.000	1.525	475
31.2	Daily for field activities \$20	9.120	7.720	1.400
<b>33</b>	<b>Transport Costs</b>			
33.1	Terrestrial passages	2.820	1.380	1.440
33.2	Aerial passages	8.960	4.480	4.480
<b>39</b>	<b>Total component Duty Travel</b>	<b>22.900</b>	<b>15.105</b>	<b>7.795</b>
<b>40</b>	<b>Capital Items</b>			
<b>43</b>	<b>Vehicles</b>			
43.1	Vehicle off-road 4x4	25.000	25.000	0
43.2	Motorcycles	5.000	5.000	0
<b>44</b>	<b>Capital Equipment</b>			
44.1	Computers	3.000	3.000	0
44.2	Equipments for field monitoring (diameter tapes, markers, calipers)	650	650	0
<b>49</b>	<b>Total component Capital Items</b>	<b>33.650</b>	<b>33.650</b>	<b>0</b>
<b>50</b>	<b>Consumable Items</b>			
<b>51</b>	<b>Materials</b>			
51.1	Material for forest nurseries	5.620	5.620	0
51.2	Satellite images	2.000	2.000	0
51.3	Production of scientific articles	2.000	1.000	1.000
<b>53</b>	<b>Fuel and Utilities</b>			
53.1	Fuel for research, courses, workshops, technical assistance	10.520	6.080	4.440
53.2	Rent of vehicles (Altamira)	600	450	150
53.4	Maintaining vehicles and equipments (\$300/mo)	7.200	4.800	4.800
53.6	Communication (telephones and internet - \$100/mo)	2.400	2.400	2.400
<b>54</b>	<b>Office Supplies</b>	0	0	0
54.1	Office material	3.600	2.400	2.400
<b>59</b>	<b>Total component Consumable Items</b>	<b>33.940</b>	<b>24.750</b>	<b>15.190</b>

## 7.2. Yearly Project Budget by Source (US\$) - ITTO

	Budget Components	TOTAL ITTO	YEAR 1	YEAR 2
60	Miscellaneous			
61	Sundry (5 x \$1870)	9.350	5.610	3.740
63	Food and supplies for courses, workshops and meetings	14.960	6.720	8.240
69	Total component Miscellaneous	24.310	12.330	11.980
	<b>SUB-TOTAL</b>	<b>250.000</b>	<b>155.235</b>	<b>100.765</b>
80	ITTO Monitoring, Evaluation and Administration			
81	ITTO Monitoring	20.000	10.000	10.000
82	Costs of Mid-term Evaluation	5.000	0	5.000
83	ABC Monitoring	10.000	5.000	5.000
84	Evaluation Ex-post	15.000	0	15.000
89	Total component	50.000	15.000	35.000
90	<b>SUB-TOTAL</b>	<b>300.000</b>	<b>170.235</b>	<b>135.765</b>
91	Administrative costs (8%)	24.000	12.000	12.000
100	<b>GRAND TOTAL</b>	<b>324.000</b>	<b>182.235</b>	<b>147.765</b>

## 7.2. Yearly Project Budget by Source (US\$) - Executing Agencies

	Budget Components	TOTAL Executing Agencies	YEAR 1	YEAR 2
10	<b>Project Personnel</b>			
11	<b>National Experts</b>			
11,6	Forest Engineer - coordinator - Embrapa	30.000	15.000	15.000
11,7	Ecologist - Embrapa	18.000	9.000	9.000
11,8	Timber Technologist Senior - Embrapa	6.000	3.000	3.000
11,9	Technology of Forest Seeds - Embrapa	4.800	2.400	2.400
11,10	Soils and Nutrition of Plants - Embrapa	15.000	7.500	7.500
11,11	Journalist - Embrapa	1.500	750	750
11,12	Publicity and Marketing - Embrapa	1.500	750	750
11,13	Public Relationships - Embrapa	1.500	750	750
11,14	Forest Engineer - UFRA	12.000	6.000	6.000
11,15	Botany Senior - MPEG	10.000	5.000	5.000
11,16	Project Development - FIDESIA	4.000	2.000	2.000
11,17	Agronomist - IBAMA	1.500	750	750
11,18	Agronomist - IBAMA	1.500	750	750
15	<b>International Experts</b>			
15,1	Forest Engineer Senior - CIFOR	10.000	5.000	5.000
15,2	Forest Engineer Senior - CIRAD	10.000	5.000	5.000
19	<b>Total Project Personnel</b>	<b>127.300</b>	<b>63.650</b>	<b>63.650</b>
20	<b>Sub-contracts</b>	<b>0</b>	<b>0</b>	<b>0</b>
30	<b>Duty Travel</b>	<b>0</b>	<b>0</b>	<b>0</b>
40	<b>Capital Items</b>			
40,1	Facilities of Embrapa (offices, laboratories, library...)	12.000	6.000	6.000
40,2	Facilities of FIDESIA	2.400	1.200	1.200
43	<b>Vehicles</b>			
43,3	Depreciation Vehicles - Partners	12.000	6.000	6.000
44	<b>Capital Equipment</b>			
44,3	Use of equipments of Partners (internet, printers, computers, GPS...)	12.000	6.000	6.000
49	<b>Total Capital Items</b>	<b>38.400</b>	<b>19.200</b>	<b>19.200</b>
50	<b>Consumable Items</b>			
53	<b>Fuel and Utilities</b>			
53,4	Maintaining vehicles and equipments	2.400	1.200	1.200
53,6	Communication (telephones and internet)	2.400	1.200	1.200
54	<b>Office Supplies</b>			
54,1	Office material	1.200	600	600
59	<b>Total component Consumable Items</b>	<b>6.000</b>	<b>3.000</b>	<b>3.000</b>
60	<b>Miscellaneous</b>			
62	Auditing	20.000	10.000	10.000
69	<b>Total Miscellaneous</b>	<b>20.000</b>	<b>10.000</b>	<b>10.000</b>
100	<b>GRAND TOTAL</b>	<b>191.700</b>	<b>95.850</b>	<b>95.850</b>

### 7.3. Consolidated Yearly Project Budget (US\$)

	Budget Components	TOTAL	Executing Agencies portion	ITTO portion	YEAR 1	YEAR 2
10	<b>Project Personnel</b>					
11	<b>National Experts</b>					
11.1	Specialist for participatory approach and community fire management (US\$1550/mo)	37,200	0	37,200	18,600	18,600
11.2	Technician for advise in community management work (2 x \$ 800/mo)	38,400	0	38,400	19,200	19,200
11.3	Assistant Researches (\$ 800/mo)	19,200	0	19,200	9,600	9,600
11.4	Technician for advise in community management work (Altamira - part time) - \$ 300/mo	7,200	0	7,200	3,600	3,600
11.5	Assistant coordinator (\$625/mo)	15,000	0	15,000	7,500	7,500
11.6	Forest Engineer - coordinator - Embrapa	30,000	30,000	0	15,000	15,000
11.7	Ecologist - Embrapa	18,000	18,000	0	9,000	9,000
11.8	Timber Technologist Senior - Embrapa	6,000	6,000	0	3,000	3,000
11.9	Technology of Forest Seeds - Embrapa	4,800	4,800	0	2,400	2,400
11.10	Soils and Nutrition of Plants - Embrapa	15,000	15,000	0	7,500	7,500
11.11	Journalist - Embrapa	1,500	1,500	0	750	750
11.12	Publicity and Marketing - Embrapa	1,500	1,500	0	750	750
11.13	Public Relationships - Embrapa	1,500	1,500	0	750	750
11.14	Forest Engineer - UFRA	12,000	12,000	0	6,000	6,000
11.15	Botany Senior - MPEG	10,000	10,000	0	5,000	5,000
11.16	Project Development - FIDESIA	4,000	4,000	0	2,000	2,000
11.17	Agronomist - IBAMA	1,500	1,500	0	750	750
11.18	Agronomist - IBAMA	1,500	1,500	0	750	750
12	<b>National Consultants</b>					
12.1	Consultant in recuperation of altered areas (PPA) and legal reserves (LR) - for exchange knowledge purposes	1,000	0	1,000	1,000	0
12.2	Consultant in environmental legislation (PPA and LR)	5,000	0	5,000	2,500	2,500
14	<b>Fellowships and Training</b>					
14.1	Fellowships and Training Students (3 x \$100/mo)	7,200	0	7,200	3,600	3,600
15	<b>International Experts</b>					
15.1	Forest Engineer Senior - CIFOR	10,000	10,000	0	5,000	5,000
15.2	Forest Engineer Senior - CIRAD	10,000	10,000	0	5,000	5,000
19	<b>Total component Project Personnel</b>	257,600	127,300	130,200	129,250	128,250
20	<b>Sub-contracts</b>					
24	Printing services - didactic material	5,000	0	5,000	3,800	1,200
29	<b>Total component Sub-contracts</b>	5,000	0	5,000	3,800	1,200
30	<b>Duty Travel</b>					
31	<b>Daily Subsistence Allowance</b>					
31.1	Daily for training \$25	2,000	0	2,000	1,525	475
31.2	Daily for field activities \$20	9,120	0	9,120	7,720	1,400
33	<b>Transport Costs</b>					
33.1	Terrestrial passages	2,820	0	2,820	1,380	1,440
33.2	Aerial passages	8,960	0	8,960	4,480	4,480
39	<b>Total component Duty Travel</b>	22,900	0	22,900	15,105	7,795

### 7.3. Consolidated Yearly Project Budget (US\$) contin...

	Budget Components	TOTAL	Executing Agencies portion	ITTO portion	YEAR 1	YEAR 2
40	<b>Capital Items</b>					
40,1	Facilities of Embrapa (offices, laboratories, library...)	12.000	12.000	0	6.000	6.000
40,2	Facilities of FIDESIA	2.400	2.400	0	1.200	1.200
43	<b>Vehicles</b>					
43,1	Vehicle off-road 4x4	25.000	0	25.000	25.000	0
43,2	Motorcycles	5.000	0	5.000	5.000	0
43,3	Depreciation Vehicles - Partners	12.000	12.000	0	6.000	6.000
44	<b>Capital Equipment</b>					
44,1	Computers	3.000	0	3.000	3.000	0
44,2	Equipments for field monitoring (diameter tapes, markers, calipers...)	650	0	650	650	0
44,3	Use of equipments - Partners (Internet, printers, computers, GPS...)	12.000	12.000	0	6.000	6.000
49	<b>Total component Capital Items</b>	<b>72.050</b>	<b>38.400</b>	<b>33.650</b>	<b>52.850</b>	<b>19.200</b>
50	<b>Consumable Items</b>					
51	<b>Materials</b>					
51,1	Material for forest nurseries	5.620	0	5.620	5.620	0
51,2	Satellite images	2.000	0	2.000	2.000	0
51,3	Production of scientific articles	2.000	0	2.000	1.000	1.000
53	<b>Fuel and Utilities</b>					
53,1	Fuel for research, courses, workshops, technical assistance	10.520	0	10.520	6.060	4.440
53,2	Rent of vehicles	600	0	600	450	150
53,4	Maintaining vehicles and equipments (\$300/mo)	9.600	2.400	7.200	4.800	4.800
53,6	Communication (telephones and internet - \$100/mo)	4.800	2.400	2.400	2.400	2.400
54	<b>Office Supplies</b>					
54,1	Office material	4.800	1.200	3.600	2.400	2.400
59	<b>Total component Consumable Items</b>	<b>39.940</b>	<b>6.000</b>	<b>33.940</b>	<b>24.750</b>	<b>15.190</b>
60	<b>Miscellaneous</b>					
61	Sundry (\$ x \$1870)	9.350	0	9.350	5.610	3.740
62	Auditing	20.000	20.000	0	10.000	10.000
63	Food and supplies for courses, workshops and meetings	14.960	0	14.960	6.720	8.240
69	<b>Total component Miscellaneous</b>	<b>44.310</b>	<b>20.000</b>	<b>24.310</b>	<b>22.330</b>	<b>21.980</b>
	<b>SUB-TOTAL</b>	<b>441.700</b>	<b>191.700</b>	<b>250.000</b>	<b>248.085</b>	<b>193.615</b>
80	<b>ITTO Monitoring, Evaluation and Administration</b>					
81	ITTO Monitoring	20.000	0	20.000	10.000	10.000
82	Costs of Mid-term Evaluation	5.000	0	5.000	0	5.000
83	ABC Monitoring	10.000	0	10.000	5.000	5.000
84	Evaluation Ex-post	15.000	0	15.000	0	15.000
89	<b>Total component</b>	<b>50.000</b>	<b>0</b>	<b>50.000</b>	<b>15.000</b>	<b>35.000</b>
90	<b>SUB-TOTAL</b>	<b>491.700</b>	<b>191.700</b>	<b>300.000</b>	<b>263.085</b>	<b>228.615</b>
91	Administrative costs (8%)	24.000	0	24.000	12.000	12.000
100	<b>GRAND TOTAL</b>	<b>515.700</b>	<b>191.700</b>	<b>324.000</b>	<b>275.085</b>	<b>240.615</b>

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## PART III: OPERATIONAL ARRANGEMENTS

### 1. Management Structure

Besides the technical team, the project will have two complementary levels for discussion and decision-making: a Steering Committee and four Local Groups (one in each one of the municipalities where work will occur). The Steering Committee will be made up of representatives of the partner institutions, representatives of the farmers and also the technical team. The Local Groups will be formed by farmer partners. The detailed definitions of the technical and administrative functions of the Steering Committee and of the Local Groups will be discussed and deliberated at the first working meeting, to be held upon approval of the project. The partner institutions and their respective functions are presented in Table 2.

Table 2. Partner institutions and their main roles to be performed in the project

Organization/Group	Main roles in the project
Embrapa Eastern Amazon	Performance of capacity building activities, recovery of degraded areas, environmental monitoring and participation on the project steering committee.
Center for International Forestry Research – CIFOR	CIFOR participation will be done through scientific contributions by Cesar Sabogal. Additionally, CIFOR will make available its local infrastructure (computer, data-show, meeting room, among others) to guarantee the proposal goals.
International Center of Cooperation for Development in Agronomic Research – CIRAD	CIRAD participation will be done through introducing primary forest management principles into the secondary forests managed with the farming partners.
Foundation Institute for Amazon Development – FIDESIA	In the present project FIDESIA will help in preparing the didactic materials to be distributed during the farming partners' training courses.
Live, Produce and Preserve Foundation – FVPP (Altamira)	Articulation and mobilization of farmers for the sensitizing courses on recovery of degraded areas; implementation of experiences with recuperation of altered areas and participation on the project steering committee.
Rural University of Amazon – UFRA	Performance of activities in recovery of degraded areas, vegetation monitoring and participation on the project steering committee. Students in the undergraduate course will be able to achieve professional qualification through research activity
Museum Paraense Emílio Goeldi – MPEG	Performance of activities in recovery of degraded areas, with indication of adequate plant species vegetation monitoring and participation on the project steering committee.
Rural Workers Union of Bragança	Articulation and mobilization of farmers, make infrastructure available and participation on the project steering committee.
Rural Workers Union of Capitão Poço	Articulation and mobilization of farmers, make infrastructure available and participation on the project steering committee.

Organization/Group	Main roles in the project
Rural Workers Union of Garrafão do Norte	Articulation and mobilization of farmers, make infrastructure available and participation on the project steering committee.
Agricultural School of Fundamental Teaching of Bragança	Make infrastructure available for courses and free students for performing project activities.
Agricultural School Juscelino Kubitschek (Belém)	Free students for performing project activities.
Brazilian Institute for the Environment and Renewable Natural Resources – IBAMA (Belém)	The IBAMA participation will be done mainly through environmental legislation discussion/adjustments to the conditions of the family, dissemination of results and technical support.

## **2. Monitoring, Reporting and Evaluation**

**Monitoring:** the project will have three different forms of monitoring. The coordinator and the technical team represents the first, which means, the coordinator has the responsibility of follow-up if all project objectives have been achieved, and the technical team is part of this process. The second, represented by the Local Groups, is composed by the stakeholder leaders and their local partners organizations, and will contribute to discuss the project actions and follow the project commitments. The third is the Steering Committee, which is composed by Local Groups, and the technical team. The Steering Committee will meet four times during the project (see work plan outputs/activities 1.5.3). Additionally, ABC and ITTO will also share responsibilities for following up development of the project. Meetings (two) with ABC, ITTO and the project Steering Committee are planned and the specific dates will be determined once the project begins, but the proposed dates are April 2006 and May 2007. The project coordinator and FIDESIA will share all the logistic arrangements for those meetings.

**Evaluation:** the project will be subjected 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. In both cases, the project coordination will be responsible for making the necessary adjustments.

**Reports:** Embrapa Eastern Amazon, the project executing institution, will present an annual follow up report to ABC. The final annual report will be delivered up to 3 months after conclusion of project activities. In both cases, ABC will be responsible for forwarding the reports to ITTO.

**Financial mechanism:** the Local Groups and Steering Committee meetings will be held in Belém, and the budget is according to Table 7, item 1.5.3. In terms of the monitoring by ABC and ITTO the financial resources expected are in agreement with what is cited in Table 7.3, items 81, 82, 83 and 84.

## **3. Future Operation and Maintenance**

In the diagnosis made during preparation of the technical bases for a program for recovery of degraded areas for the SCA the absence of initiatives and research directed towards the

rehabilitation of legal reserve and permanent preservation areas in the Amazon was noted. On the other hand, in the field, a major demand was observed from family farmers for promoting recuperation of altered areas, principally through enrichment of secondary forest. For example, in a study of economic valuation of secondary forest made with support from ProManejo great interest was noted in the majority of farmer partners (some 50 families) in promoting enrichment of secondary forest as a form of economically improving this natural resource, and, at the same time, protect water sources. In participatory work with 15 farmers on enriching secondary forest with fast-growing forest species, done in Igarapé-açu (PA), for the purpose of improving accumulation of biomass and nutrients for a more rapid return to the agricultural phase, the majority (12 families) did not wish to mulch the trees, but preferred to let them grow with a view to future wood use. Therefore, one may comment that the possibility of establishing a demonstration network for recovery of degraded areas may provide inputs for governmental institutions that deal with environmental questions, such as IBAMA, to adjust legislation now in force, as well as specific stimulus programs, through PNF, for producing timber and non-timber products from family agriculture.

In the search for independence, new funds and other possibilities for support must be goals to be pursued by the representatives of social movements, based on the results obtained by the present project.

## PART IV: TROPICAL TIMBER FRAMEWORK

### 1. Compliance with ITTO 1994 Objectives

This project proposal is consistent with the following ITTO objectives:

To contribute to the process of sustainable development: countless farming families will be implementing units for recovery of degraded areas on their properties, through different productive systems, which will serve to generate income in the medium and long term, and which may contribute towards re-establishing the ecological functions of forest cover;

To promote and support research and development with a view to improving forest management and efficiency of wood utilization as well as increasing the capacity to conserve and enhance other forest values in timber producing tropical forests: the present research and development project proposes that a technical alternative to be used is management of the secondary forest, which will allow recovery of forest cover in a region that has been quite altered, and where primary forest no longer exists. Management of secondary forest presents a major potential for production of timber and non-timber products, and may be implanted in legal reserve areas on the property as a form of reordering the forest resource;

To encourage members to support and develop industrial tropical timber reforestation and forest management activities as well as rehabilitation of degraded forest land, with due regard for the interests of local communities dependent on forest resources: the work proposal has a central focus on local participation in various activities, including decision making between the local communities and the technical team, as well as empowerment of the families related to decision making processes on planning.

This project is also consistent with the functions of the ITTO Committee on Reforestation and Forest Management, which will be in charge of the following tasks:

*Promote cooperation between members as partners in development of forest activities in member countries, inter alia, in the following areas – Reforestation and Rehabilitation:* since this is a project that has partnerships with international institutions, and these, for their part, have experience in various countries, it will be possible to have opportunities for cooperation and exchange activities;

*Encourage increase of technical assistance and transfer of technology in the fields of reforestation and forest management to developing countries:* the present project involve the presence of three field technicians providing technical advice to the farming families, the Producer Associations and the Rural Workers Unions;

*Facilitate the transfer of knowledge in the field of reforestation and forest management with competent assistance of organizations:* it is worth highlighting the national, regional and international competence of the executing institutions and partners, with regard to knowledge generated on the theme of reforestation and forest rehabilitation. (Embrapa and predecessor institutions with 65 years of activities, MPEG with 138 years, UFRA and its predecessor with 52 years, CIRAD with 20 years and CIFOR with 12 years).

## **2. Compliance with ITTO Action Plan**

This project proposal is consistent with the ITTO Action Plan, with its goals and respective measures necessary for their fulfillment in the area of Reforestation and Forest Rehabilitation, such as:

*Identify shortcomings in enforcement of forest laws and regulations, and overcome them:* one of the activities foresees an analysis of forest legislation with regard to legal reserve and permanent preservation areas in rural properties and will propose suggestions to improve or adapt this legislation to regional socioeconomic and environmental conditions;

*Develop and promote the implementation of guidelines for the management of secondary tropical forests, the restoration of degraded tropical forests and the rehabilitation of degraded forest land:* management of multiple use secondary forests, if developed as a pioneer activity in the Amazon region, may contribute to formulation of guidelines for rehabilitating secondary forests, just as units for recuperating altered areas will aid in rehabilitating degraded forest lands;

*Improve the productive capacity of natural forests, where appropriate, through intensified silvicultural practices, better utilization of lesser-used species, the promotion of non-timber forest products, guided natural regeneration, enrichment planting and reforestation:* management of secondary forest through enrichment of secondary forests for production of timber and non-timber products, as well as planting of fast-growing trees, will improve the productive capacity of the degraded areas on small farmer properties;

*Implement research and development activities in the management of secondary tropical forests, restoration of degraded tropical forests and rehabilitation of degraded forest land, taking into consideration ITTO guidelines:* with support from ITTO enrichment planting and forest land recuperation activities will be initiated, with species to be defined in terms of their potentialities and in common accord with local residents; and

*Establish and manage forests for multiple uses in cooperation with local forest owners and communities living in forest areas:* this will be the methodological research/action strategy developed by the team in partnership with the farming families.

## **3. Compliance with ITTO Guidelines for the reforestation, management and rehabilitation of degraded and secondary tropical forests**

The project is consistent with the ITTO Guidelines for the reforestation, management and rehabilitation of degraded and secondary tropical forests, as following:

*Empower local people and ensure the equitable sharing of costs and benefits (Objective III):* the capacity-building courses to be offered to farmer partners, under different themes of rehabilitation of degraded areas, associated to rehabilitation actions through setting up demonstration plots, will make it possible to stimulate discussion of the importance of the environmental costs and services in silvicultural activities at the level of agricultural communities. Questions such as stakeholder participation (Principle 8), social equity (Principle 9) and traditional knowledge (Principle 10) can be debated during meetings of the Local Committees where the project will be carried out and during technical advice activities that each family will receive during the project lifetime.

*Employ integrated approaches to resource assessment, planning and management (Objective IV):* in this case, the implantation of demonstration areas for rehabilitating secondary forest will begin with participatory planning together with the stakeholders chosen species to be used (Principle 11 – Land-use options, and Principle 13 – Multiple-use), seeking to integrate the scale of the property to the scale of the landscape.

*Take an adaptive and holistic approach to forest management, emphasizing environmental and social (Objective V):* throughout the project a holistic strategy will be used that will take into account the socioeconomic reality of the families involved and their needs. These families will be encouraged to test new strategies for rehabilitating degraded areas and for their future management, in an active and participatory fashion (Principle 14 – Adaptive management).

*Guarantee participatory monitoring and evaluation as a basis for adaptive management (Objective VII):* a guiding protocol for monitoring of areas undergoing the recuperation process will be elaborated and tested with the stakeholders (Principle 30 – Applied research). This process is an opportunity to guarantee participatory approach and any suggestion could be adapted (Principle 29 – Monitoring). Dissemination of information to partner families will happen in a transparent, direct and permanent fashion during moments for coming together (courses, meetings, periodic technical visits) and also through didactic material produced (primers). For the general public, dissemination will occur during visits to the demonstration units and through informative publications (Principle 31 – Knowledge-sharing).

*Utilize appropriate ecological and silvicultural knowledge and efficient management practices (Objective VIII):* in the present proposal the silvicultural practices used for rehabilitating degraded areas will be adequately in line with the farmers' needs (Principle 33 – Simple silvicultural practices). The key species for rehabilitation process will be chosen in a participatory fashion (considering the local needs and traditional knowledge) with consideration being given to the original environmental conditions (soil and climate) of these species and the ones at the sites where they will be planted. Preference will be given to multiple-use species (producers of timber, fruits and seeds) that will provide direct socioeconomic benefits (Principle 36 – Key species; Principle 38 – Role of multi-purpose species; and Principle 42 – Species selection). Although the farmers have different areas for rehabilitation activities, in the present project, priority will be given to secondary forest areas that are the result of slash-and-burn agriculture. The strategies to be utilized are in agreement with Principle 49 – Enrichment planting.

Finally, it is worth noting that this proposal is consistent with the recommendations ITTO 2004-2007 Program Framework for Cooperation in Brazil recently developed by the Brazilian Cooperation Agency and the Ministry of Environment through the National Forest Program. The framework defines a systemic approach for planning and approval process of technical cooperation projects sent by the Brazilian government to the ITTO. This approach includes: (i) the harmonization of the goals of the three working areas of the ITTO with the priorities of the national forest program and (ii) a public bidding process to receive proposals; (iii) the establishment of common and impartial judgment process including independent experts committee and a commission involving members of the National Forest Program Board.

## ANNEX A. PROFILE OF THE EXECUTING AGENCY

### 1. The Expertise of the Executing Agency

#### Embrapa Eastern Amazon

Address: Cx. Postal 48; CEP 66095-100; Belém-PA; Brazil

Phone: +55 91-299-4500

Fax: +55 91-276-9845

E-mail: [sac@cpatu.embrapa.br](mailto:sac@cpatu.embrapa.br)

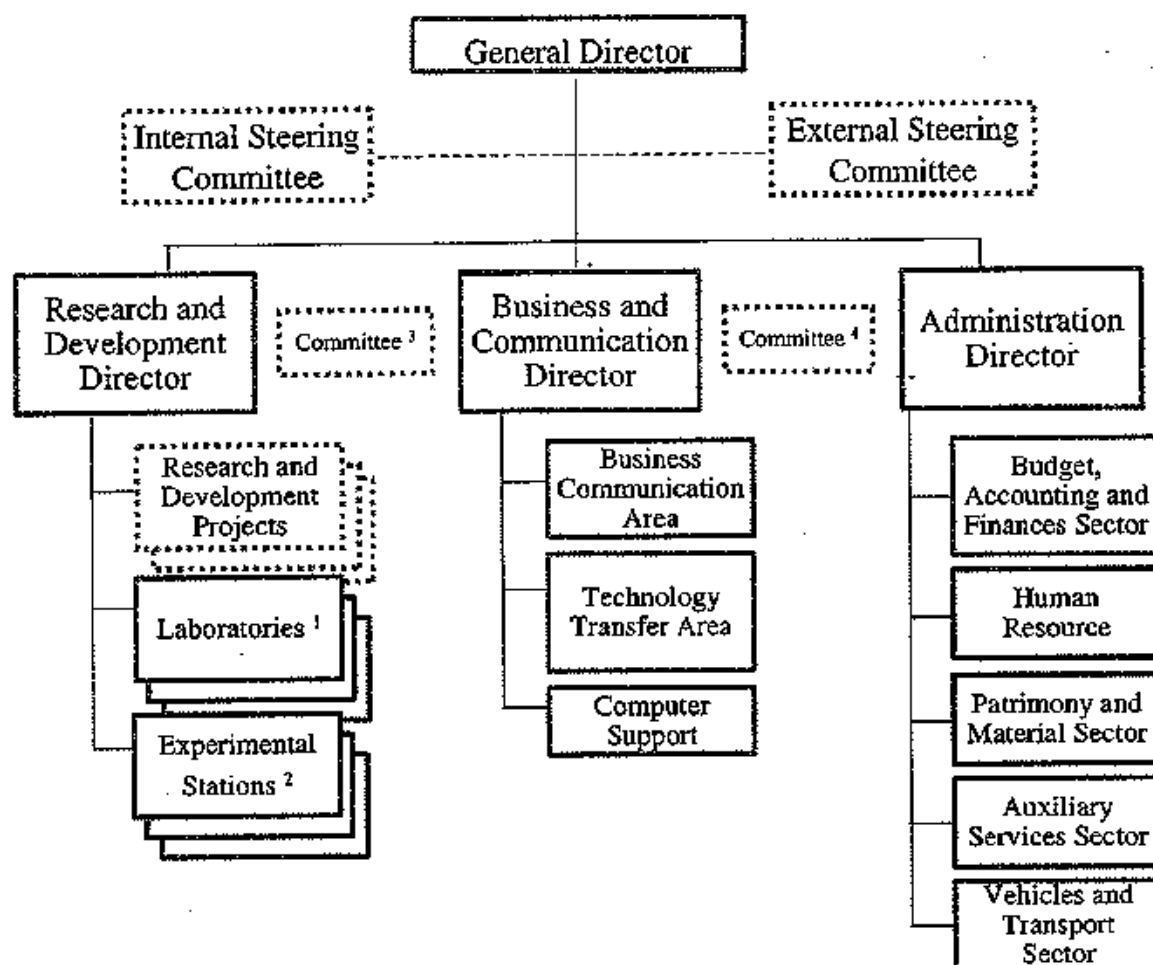
[www.cpatu.embrapa.br](http://www.cpatu.embrapa.br)

Created in 1973 the Brazilian Agricultural Research Corporation (Embrapa) is a Federal company linked to the Ministry of Agriculture with 37 Research Centers, 3 Service Units and 11 Central Units, in almost all the States of Brazil. To be an important reference in agribusiness, Embrapa invests in human resources training. Currently, it has 8,619 employees, of which 2,221 are researchers (45% M.Sc. and 53% Ph.D.) and an annual budget around US\$ 200 million. In terms of international cooperation, Embrapa maintains 275 technical cooperation agreements with 56 countries and 155 international research institutions.

In Belém, State of Pará, is located Embrapa Eastern Amazon which is more than sixty years old (Figure 6) and is one of the most important Centers for agro-ecology research. Its mission is to find solutions for sustainable development in agriculture and forestry by generating technologies that benefit society. Family agriculture is one of the priority research areas, as well as: natural resources and the environment; forest production and agroforestry; crop production; animal production; agro-industry; genetic resources; and training and technology transfer.

Embrapa Eastern Amazon has 27 years of experience in forest research including ecology, reforestation, logging and management of primary and secondary forests, with experimental areas distributed in Tapajós, Jarí, Marabá, Rio Maria, Moju, Paragominas and Tailândia.

In partnership with CIFOR, the project "Sustainable Management of Forests for Commercial Scale Production in the Brazilian Amazon" - Project PD 57/99 rev.2 (F) was approved by ITTO, and, in partnership with CIRAD and other Brazilian, Ecuadorian and Bolivian institutions, the proposal "Forestry and Agriculture" was approved, by the European Community.



1 Laboratories: Agro-industry, Botany, Climatology, Ecofisiologia, Entomology, phytopathology, Animal Nutrition, Plants Propagation, Genetic Resources and Biotechnology, Forest Seeds, Remote Sensing, and Soils

2 Field Stations: Transamazônica, Bragantina, Médio Amazonas, Sul do Pará, Baixo Tocantins, Belém/Brasília, Marajó, Sudeste do Pará and Belém.

3 Local Committee of Publication.

4 Local Committee of Intellectual Property and Editorial Business.

Figure 6. Embrapa Eastern Amazon Flow Chart

### 1.2 The infrastructure of the Executing Agency

Embrapa Eastern Amazon has a total area of 2,706 hectares and the following 10 laboratories that can be used during the project activities: Forest Seeds, Soils, Remote Sensing, Biotechnology, Medicinal Plants, Botany, Entomology, Ecophysiology, Agroindustry and Phytopathology. The computerized library, one of the largest in the Amazon region for agricultural purposes, assists more than 1,000 people a year. Besides this, meeting rooms, an auditorium for courses and events, and work rooms with internet access and computer equipment can be use during the project execution.



### 1.3 Budget

COMPONENT	BUDGET/YEAR (US\$ 1.00)		
	2001	2002	2003
Personnel	12,901,638	10,568,414	10,705,669
Sub-contracts	1,048,413	803,357	567,921
Capital	295,156	36,796	113,347
Office Supplies	1,497,732	1,147,653	946,535
Travel	72,325	61,623	64,968
<b>Total</b>	<b>15,815,265</b>	<b>12,617,841</b>	<b>12,398,440</b>

### 1.4 Personnel

LEVEL OF EXPERTISE	PERSONNEL (number)
Post-graduate degrees	117
Undergraduate degrees	26
Mid-level technicians	22
Administrative	46
Field support (drivers, cooks, lab)	292
<b>Total staff</b>	<b>503</b>

## 2. Partner Institutions

### 2.1 Rural University of the Amazon (UFRA)

Address: Av. Tancredo Neves, 2501; CEP 66095-100, Belém-PA; Brazil  
Phone: +55 (91) 274-2233  
Fax: (91) 274-0088  
<http://www.ufra.edu.br>

The Rural University of Amazon (UFRA), located in Belém, was created in December 2002 (Federal Law 6,611), replacing the more than 50 year-old Faculty of Agrarian Sciences of Pará (FCAP). The current undergraduate courses are the following: Agronomy; Forest Engineering; Fisheries Engineering; Medicine Veterinary Medicine and Animal Husbandry. The master degree courses are: i) Agronomy (Tropical Soils and Biology; ii) Forest Engineering; and iii) Botany (with the Museum Paraense Emilio Goeldi). A doctorate course in Agroforestry systems is available in partnership with EMBRAPA.

Forest management research, under the responsibility of the Department of Forest Sciences (DCF), maintains research partnership and development with several local, national and international public and private institutions, such as Embrapa Eastern Amazon, University of Dresden/Germany, DFID / United Kingdom, Nordisk, among others.

In the present project UFRA will participate in some activities and on the Steering Committee. Students in the undergraduate course will be able to achieve professional qualification through research activity.

## 2.2 Museu Paraense Emílio Goeldi (MPEG)

Address: Av. Magalhães Barata, 376; Cx. Postal 399; CEP 66040-170; Belém-PA

Phone: +55 (91) 249.1312

Fax: +55 (91) 249.0466

<http://www.museu-goeldi.br>

The Museum Paraense Emílio Goeldi (MPEG) is an Amazonian research reference institution. With 137 years of history, its mission is to research Amazonian flora, fauna and peoples and their physical atmosphere, to preserve and to enlarge scientific knowledge and to promote communication activities and cultural extension. Located in 5.2 hectares of Belém urban area, since 1895, the MPEG has maintained alive collection of Amazon plants, a small permanent zoo and infrastructure for communication activities and extension. As its activities have increased, the physical base has been enlarged and now, 12 hectares Research Campus provides infrastructure for research, scientific collections, libraries, laboratories and a data processing center.

The Botany Department has been intensifying ecological researches in *açaí* palm (*Euterpe oleracea* Mart.), Brazil-nut (*Bertholletia excelsa* H.B.K.), *bacuri* (*Platonia insignis* Mart.), and *maravuvuia* (*Croton matourensis* Aubl.), among others. In general, most of the scientific projects are related to applied ecology.

In the present project MPEG will participate in secondary forest management activities and in the Steering Committee. Students in the undergraduate and masters programs will be able to achieve professional qualification through research activity and thesis orientation.

## 2.3 Center for International Forestry Research (CIFOR)

Address of the Regional Office in Brazil:

Agreement Embrapa-CIFOR

Embrapa Amazônia Oriental

Trav. Dr. Eneas Pinheiro s/n; 66.095-100; Belém-PA; Brazil

Phone/Fax: +55 (91) 276-0041

Regional coordinator: Alvaro Luna Terrazas

E-mail: [a.luna.terrazas@cgiar.org](mailto:a.luna.terrazas@cgiar.org)

The International Center for Forest Research (CIFOR), located in Bogor, Indonesia, was created in 1993, to generate and to promote transfer of technologies for sustainability in forest management. The institution acts in Africa, Asia and Latin America. CIFOR is one of the 16 international centers that compose the Advisory Group of International Agricultural Research (CGIAR), to support agriculture and forest research in developing countries.

In Brazil, CIFOR has a local office in agreement with Embrapa Eastern Amazon, established in January 1998, whose research lines related to the present proposal are: i) sustainable natural forest management; ii) experiences in degraded land recovery in the Brazilian Amazon; and iii) conservation of biodiversity for local subsistence in the Brazilian Amazon.

CIFOR participation will be done through scientific contributions by Cesar Sabogal. Additionally, CIFOR will make available its local infrastructure (computer, data-show, meeting room, among others) to guarantee the proposal goals.

#### *2.4 Foundation Institute for Amazon Development (FIDESA)*

Address: Av. Alcindo Cacela, nº 784; CEP 66040-020; Belém-PA

Phone: +55 (91) 246-8658

Fax: +55 (91) 246-8300

E-mail: [gerenciageral@fidesa.org.br](mailto:gerenciageral@fidesa.org.br)

<http://www.fidesa.org.br>

The Foundation Institute for Amazon Development (FIDESA) it is a private institution, founded in 1997. Since its foundation, FIDESA has been establishing partnerships with government- and non-government institutions (Museum Paraense Emílio Goeldi; Embrapa, Instituto Max Planck of Psych-linguistics, Central Electric of Pará; Vale do Rio Doce Company and Ministry of Health, among others), represented on the national and international scene for developing projects in environmental, educational and health issues. FIDESA purposes are to support, to develop and to foment activities of research, extension, training, distanced teaching and arts and culture, and to contribute to development of human quality of life in the Amazon region.

In the present project FIDESA will help in preparing the didactic materials to be distributed during the farming partners' training courses.

#### *2.5 International Center of Cooperation for Development in Agronomic Research (CIRAD)*

Address of the Regional Office in Brazil:

Agreement Embrapa / CIRAD

Embrapa Amazônia Oriental

Trav. Dr. Enéas Pinheiro s/n; CEP 66.095-100; Belém-PA; Brazil

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The strategic mission of CIRAD is to contribute to rural development in tropical and subtropical countries involving experimental research, academic formation in France or abroad, mainly in agricultural, forest and food issues. In Brazil, the partnership with Embrapa Eastern Amazon has existed since 2000. The projects developed refer to ecology and tropical forest management. There are also research actions with the Forest Laboratory (Silvolab) located in French Guiana.

In the present proposal, the CIRAD participation will be done through introducing primary forest management principles into the secondary forests managed with the farming partners.

#### *2.6 Rural Workers Union of Bragança (STR / Bragança)*

Address: Tv. Coronel Antonio Pedro, s/n; CEP 68600-000; Bragança-PA

Phone/Fax: +55 (91) 425-1169

E-mail: [strbrag@eletronet.com.br](mailto:strbrag@eletronet.com.br)

The Rural Workers Union of Bragança (STR / Bragança) was founded in 1972 to coordinate, protect and to be a legal representation and promote rural worker development in political, economic and social aspects.

Since 2000, the STR / Bragança has been implanting the Water and Swamp Demonstration Project, financed by the Program PDA / MMA / PPG7, developed in partnership with the PRORENDIA project under the Agriculture Secretariat of the State of Pará and the project Mangrove Dynamics and Management (MADAM) of the Federal University of Pará (UFPA).

The objective is to motivate the fishermen to diversify sources of income through adding value to products of extractivism or incorporating new economic activities, capable of complementing incomes.

The STR / Bragança will provide infrastructure to accommodate the project technician, give support to farming partners and be part of the Steering Committee. Besides, it will contribute towards publicizing the proposed project locally.

#### *2.7 Rural Workers Union of Capitão Poço (STR / Capitão Poço)*

Address: Trav. General Barata, 667; CEP 68.650-000; Capitão Poço-PA  
Phone: +55 (91) 468-1584  
E-mail: strcap@informaxnet.com.br

The Rural Workers Union of Capitão Poço (STR / Capitão Poço) was founded in 1972 and plays a role in terms of accompaniment of small producers on different issues such as credit, health, dental services, technical consulting, retirement, education and mortuary services. In partnership, it works with the Federation of Agriculture Workers (FETAGRI), Lamparina Association, Environmental Foundation of Eastern Para (FANEP) and Embrapa / UFRA / CIFOR / FUNPEA.

Within the present project the STR / Capitão Poço will provide infrastructure to accommodate the project technician, gives support to farming partners and be part of the Steering Committee. Besides, will contribute to make public the proposed project locally (Repeat paragraph from STR / Bragança).

#### *2.8 Rural Workers Union of Garrafão do Norte (STR / Garrafão)*

Address: Av. Setembro 07, 826; CEP 68665-000; Garrafão do Norte-PA  
Phone: +55 (91) 434-4151  
Fax: +55 (91) 434-4184  
E-mail: not available

The Rural Workers Union of Garrafão do Norte (STR / Garrafão) was founded in 1989. Its main goals are to provide support for small farmers in: health, education, retirement, health, birth documentation, and technical consulting in the use of productive credits. The Union has partnerships with the Federation of Agriculture Workers (FETAGRI), Lamparina Association, and Environmental Foundation of Eastern Para (FANEP).

In the present proposal, STR Garrafão will provide the necessary infrastructure to support the project technical team, and will mobilize farmers during different activities of training courses and recovery of degraded land. Besides, the Union will be part of the Steering Committee and will contribute to popularize the proposal at different levels.

#### *2.9 Live, Produce and Preserve Foundation (FVPP)*

Address: Rua Anchieta, 2092; CEP 68.371-190; Altamira-PA  
Phone/Fax: +55 93-515-2406  
E-mail: fvpp@amazoncoop.com.br

Created in 1991, the Live, Produce and Preserve Foundation (FVPP) comes from a social movement with characteristics of demands, articulation and proposition. Since 1992, the Foundation has been executing development actions, such as the establishment of Rural Family

Houses (pedagogy of alternation), Program for Socio-Environmental Development for Familiar Rural Production (PROAMBIENTE), DEMA Found, implantation of Agroforestry systems, Sustainable Use of Natural Resources, Beekeeping, Project Agriculture without burning, Formation of Youth and Women, Small Industries, proposal to create the Community Forest Reservations, among others. Besides, the Foundation acts to strengthen social movements and human rights and develop actions through seminars, free of charge work based on agro-ecology principles, and sustainable development, including use of water resources. Today, the FVPP has 113 affiliated entities.

In the present proposal, the FVPP will provide infrastructure to support the project technical team and will mobilize farmers during different activities of training courses and recovery of degraded land. Besides, the Union will be part of the Steering Committee and will contribute to popularize the proposal at different levels.

## *2.10 Brazilian Institute of Environment and Natural Resources (IBAMA)*

Address: Av. Conselheiro Furtado 1303; CEP 66035-350; Belém-PA  
Phone/Fax: +55 91-224-5899  
[www.ibama.gov.br](http://www.ibama.gov.br)

The Brazilian Institute of Environment and Natural Resources (IBAMA) was created in 1989 resulted from a fusion of: Secretary of Environment (SEMA), Superintendency of Rubber (SUDHEVEA), Superintendency of Fishing (SUDEPE), and the Brazilian Institute of Forest Development (IBDF). The main purposes of IBAMA are:

- 01) to reduce the harmful effects and to prevent current accidents of use of pesticide products, their components, as well as their residues;
- 02) to promote adoption of actions to control the production, use, commercialization, movement and disposal of chemical substances and dangerous residues;
- 03) to control and to oversee the environment at a regional and national level;
- 04) to intervene in development processes that cause significant environmental impact, at a regional and national level;
- 05) to monitor transformations to the environment and natural resources;
- 06) to execute administrative actions to protect and to control the quality of water resources;
- 07) to maintain the integrity of the permanent preservation areas and legal reserves;
- 08) to oversee fisheries resource use in Brazilian waters;
- 09) to oversee national forest resource use;
- 10) to monitor the status of ecosystem conservation, species and the natural genetic patrimony;
- 11) to execute actions for protection and management of Brazilian fauna and flora species;
- 12) to promote research, diffusion and technical-scientific development for environmental administration;
- 13) to promote access and sustained use of natural resources; and
- 14) to develop analytical and prospective studies to verify tendencies and scenarios in support of environmental planning.

In the present proposal, the IBAMA participation will be done mainly through environmental legislation discussion/adjustments to the conditions of the family.

## **ANNEX B. TERMS OF REFERENCE AND CURRICULA VITAE OF THE KEY STAFF**

### **1. Terms of Reference**

#### **TOR 1.**

**Function:** Specialist in Participatory Approach and Community Fire Management

**Title:** Agronomic Engineer

**Qualifications:**

- a) Professional with a minimum 10 years experience in family agriculture and participatory methodologies in the Amazon
- b) Experience in coordinating research and development projects involving governmental, non-governmental and rural producer institutions
- c) Experience in research work and capacity building in Community Fire Management
- d) Knowledge of techniques for recuperating degraded areas and community forest management
- f) Possess leadership skills
- g) Experience in advising rural assistance work
- h) Experience in planning, conducting and facilitating technical events technicians
- i) Experience in planning, formatting and performing capacity building courses directed towards a rural audience
- j) Skills in group dynamics and conflict intermediation

**Responsibilities:**

- a) Coordinate the planning, performance and assessment of capacity building and technical assistance activities among the farming family partners
- b) Prepare and teach a capacity building course in Community Fire Management
- c) Coordinate activities that involve differentiated audiences (technicians, students, researchers, farmers, producer associations) utilizing didactic and participatory strategies
- d) Sensitize project technical team and partner agencies as to participatory methodologies
- e) Orient field technicians in their assistance to producer partners
- f) Supervise the didactic materials to be produced
- g) Coordinate participatory management activities (Steering Committee and Local Groups)
- h) Aid in property use planning activities
- i) Produce a scientific article on the role of the participatory focus in research and development activities
- j) Prepare didactic material on Community Fire Management

#### **TOR 2.**

**Function:** Forestry Database Technician Specialist

**Title:** Forestry Technician

**Qualifications:**

- a) Professional with a minimum 4 years experience in working with forest inventory data banks and permanent monitoring plots
- b) Experience with family agriculture and participatory methodologies in the Amazon
- c) Knowledge of techniques for recuperating degraded areas and community forest management
- d) Computer skills (texts, electronic spreadsheets, Internet)
- f) Experience in organizing and systematizing data from field collecting and technical material
- g) Communications and relationship skills with diversified groups of people

Responsibilities:

- a) Assist with collecting, storing and organizing data collected in the field
- b) Organize documentation for project database
- c) Assist in various project activities (meetings, courses, workshops) with reports and records of the events
- d) Keep the database updated
- e) Assist technical coordination in internal communications between project members

**TOR 3.**

Function: Agro-forestry Technician

Title: Agro-forestry Technician

Qualifications:

- a) Professional with a minimum 3 years experience in technical advice in community management work
- b) Experience in forest inventories, permanent monitoring plots and management of secondary forests
- c) Experience in agroecology and community work
- d) Knowledge of techniques for recuperating of degraded areas
- e) Experience with family agriculture and participatory methodologies in the Amazon
- f) Computer skills (texts and electronic spreadsheets)
- g) Experience in organizing and facilitating meetings with rural producers
- h) Communications and relationship skills with diversified groups of people
- i) Licensed motorcycle driver

Responsibilities:

- a) Technically advise the farmer partners and their families, in preparing, organizing, installing and maintaining units for recovery of degraded areas and maintaining management units for secondary forests, in the municipalities where the project acts (Capitão Poço, Garrafão do Norte, Bragança and Altamira)
- b) Advise the partner families in planning natural resource use on the property
- c) Stimulate collective activities between partners
- d) Systematize activities developed in the field in the form of reports
- e) Advise the partner institutions (Producer Associations and Unions) on environmental questions, including strategies for recovery of degraded areas and management of secondary forests
- f) Summon partners and coordinate local logistics for visits, meetings and courses that will occur during the project in the municipalities where it is acting
- g) Participate in the periodic meetings with the coordination
- h) Maintain an efficient system of communications between the other technicians and with project coordination
- i) Keep informed of activities

**TOR 4.**

Function: Assistant Coordinator

Title: Technician

Qualifications:

- a) Professional with a minimum 3 years experience in project administration

- b) Experience in procedures for price quotes, bidding and procurement of materials and equipment
- c) Knowledge of legal questions related to rendering accounts, payment of taxes and labor questions such as social contributions
- d) Computer skills (texts and electronic spreadsheets)
- e) Experience in organizing and systematizing evidential administrative documents
- f) Communications and relationship skills with diversified groups of people

Responsibilities:

- a) Organize financial documentation and prepare rendering of accounts
- b) Operationalize administrative activities to meet technical needs
- c) Facilitate logistics for all activities necessary for project progress
- d) Advise the technical and financial coordination
- e) Reconcile and control rendering of accounts by technicians from each municipality
- f) Keep the cash register book updated
- g) Participate in the periodic meetings with the coordination
- h) Keep informed of activities developed by the project

**TOR 5.**

Function: Consultant

Title: Specialist in Environmental Law

Qualifications:

- a) Experience in teaching courses on environmental legislation for different audiences
- b) Minimum X years experience in research and teaching activities
- c) Skills in evaluation and adjustment of environmental legislation
- d) Experience in advising students (undergraduate and graduate) in conducting research work involving field activities

Responsibilities:

- a) Prepare and coordinate workshops for discussion and capacity building of "Environmental legislation its Relations with Regional Family Agriculture" directed towards local populations
- b) Prepare didactic material beforehand for use in workshops
- c) Evaluate environmental legislation now in force, with regard to the use and conservation of legal reserve areas and permanent preservation areas in rural family properties
- d) Propose adjustments to environmental legislation in light of the socioeconomic and cultural reality of the Eastern Brazilian Amazon region (report)
- e) Advise an undergraduate student in a research project on adjustment of environmental legislation
- f) Produce a scientific article on adjustment of environmental legislation to regional socio-environmental conditions

**TOR 6.**

Function: Consultant

Title: Specialist in Recuperation of Altered Areas

Qualifications:

- a) Experience in Recuperation of Altered areas in the Amazonian Biome and/or other Brazilian biomes



- b) Practical experience in technical adaptations and regional/state alterations in environmental legislation in with regard to recovery of degraded areas
- c) Experience in teaching courses on recuperation of altered areas for different audiences
- d) Minimum 5 years experience in research and teaching activities

Responsibilities:

- a) Participate in courses on recuperation of altered areas with didactic presentations on existing experiences in various Brazilian biomes in both legal reserve and permanent preservation
- b) Prepare didactic material beforehand to be used and distributed in the courses
- c) Present a talk on experiences in recovery of degraded areas for an academic scientific audience to be held in Belém
- d) Participate in technical discussions with project team and guests during workshops as to the possibilities for adaptations to environmental legislation (use and conservation of the legal reserve areas and permanent preservation areas in rural family properties)

**TOR 7.**

Function: Consultant

Title: Specialist in Rural Property Planning

Qualifications:

- a) Experience in planning utilization of rural Amazonian family properties
- b) Skills in participatory methodologies
- c) Skills in use of different types of mapping tools (mental maps, resource maps, social maps, satellite images, dream map, etc.)
- d) Experience with Geographic Information Systems

Responsibilities:

- a) In a participatory fashion construct utilization plans for rural family properties with a view to strategies for recuperation of altered areas, forest resource management and the various productive activities (backyards, annual, semi-perennial and perennial agricultural crops, agroforestry systems, animal raising, etc.) that are achievable given the socioeconomic and cultural reality of the population
- b) Test different tools and identify those most appropriate for preparing utilization plans for rural family properties
- c) Prepare maps and systematize the information contained in the utilization plans for rural family properties
- d) Prepare a technical-scientific article about the results achieved
- e) Participate in technical discussions with the other project members

**TOR 8.**

Function: Publishing and reproduction of printed material services

Title: Not specified

Qualifications:

- a) Experience in publication and reproduction of printed material
- b) Quality graphic equipment

Responsibilities:

- a) Produce didactic texts on recovery of degraded areas and reproduce 1,000 units

- b) Produce three / four teaching brochures containing illustrations and didactic texts on: a) techniques for seed collection and seedling production; b) areas; c) environmental legislation; and d) techniques for community prevention and control of fires and finally, reproduce 500 units of each one of them.

**TOR 9.**

Function: Student Fellowship

Title: Remote Sensing (course of geography)

Qualifications:

- a) Graduation course
- b) Skill in manipulate software

Responsibilities:

- a) Prepare maps and systematize the information contained in the utilization plans for rural family properties
- b) Participate in technical discussions with project team and guests during workshops
- c) Collect field data

**TOR 10.**

Function: Student Fellowship

Title: Land recover (agronomist or forest engineer)

Qualifications:

- a) Graduation course
- b) Skill in manipulate software

Responsibilities:

- a) Systematize project informations
- b) Participate in technical discussions with project team and guests during workshops
- c) Collect field data

**TOR 11.**

Function: Student Fellowship

Title: lawyer

Qualifications:

- a) Graduation course
- b) Skill in manipulate software

Responsibilities:

- a) Systematize project informations
- b) Participate in technical discussions with project team and guests during workshops
- c) Collect field data
- d) Evaluate environmental legislation now in force, with regard to the use and conservation of legal reserve areas and permanent preservation areas in rural family properties

## **2. Curricula Vitae of the Key Staff**

### **Coordinator – Forestry Engineer**

**Silvio Brienza Júnior**

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**Profession:** Forestry Engineer

**Function:** Researcher of Embrapa

**Birth date:** 08/11/1955

**Place:** Rio Claro-SP

**Nationality:** Brazilian

**Schooling:**

- Doctor in Tropical Agriculture (1999): George August University of Goettingen, Germany
- Master Science in Soil and Plant Nutrition (1988): Federal University of Viçosa, Brazil
- Graduate in Forestry Engineer (1978): Luiz de Queiroz Agricultural Higher Education School (ESALQ), University of São Paulo, Brazil

**Professional Experience:**

1979 – to present researcher at Embrapa Eastern Amazon, Belém-PA

1980, 1983 and 1988: assisted agroforestry training courses at CATIE (Costa Rica); IICA / CONIF (Colombia) and ICRAF (Kenya).

1992: instructor of agroforestry training course promoted by ICRAF/Embrapa (Manaus).

1980-1981 and 1988-1990: coordinator of field station.

1988-1990: coordinator of the Forest Resources Technical Area of Embrapa Eastern Amazon.

1994 – to present: research with fast growing leguminous trees for enriching secondary vegetation.

2001 – to present: responsible for teaching the course “Diagnosis, planning and evaluation of agroforestry systems” and co-responsible for the course “Basis of agroforestry systems” in the doctorate course of the Rural Federal University of Amazon.

2003 – to present: responsible for coordinating the project “Participatory Management of Secondary Forest Integrated to the Family Agriculture Productive System in Northeast Pará”, financed by the National Fund for the Environment / Ministry of the Environment.

## **Forestry Science**

**César A. Sabogal M.**

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**Profession:** Forestry Engineer

**Function:** Researcher at CIFOR

**Birth date:** 19.12.1954

**Place:** Callao, Peru

**Nationality:** Peruvian

**Schooling:**

- Doctor in Forestry Science: George August University of Goettingen, Germany

### **Professional Experience:**

Some 25 years of professional life, with main action in research and development, and capacity-building in the areas of tropical forest management and silviculture. Experience developed mainly in Amazonian countries (Brazil, Peru, Bolivia) and Central America Central (Costa Rica, Nicaragua, Guatemala). Has participated in official and study missions to more than 15 countries, including international consulting work. Has published more than 60 papers. Since end of 1994 working for the Center for International Forestry Research (CIFOR) and since January 1998 located in Belém at the CIFOR Regional Office. Work as lead researcher or coordinator in the following relevant projects:

- Sustainable Management of Production Scale Commercial Forests in the Brazilian Amazon (EMBRAPA-CIFOR-ITTO), Member of the Coordination
- Restrictions and Opportunities for Adapting Sustainable Forest Management Practices in the Amazon Forest (Bolivia, Brazil and Peru)
- Technical-Financial Diagnostic of Silvicultural Practices in the Brazilian Amazon
- Management of Secondary Forests in Latin America" (Brazil, Nicaragua and Peru)

### **Professional experience**

- From May 2004 to present: Scientific Coordinator for the Program on Environmental Services and Sustainable Use of the Forest of the Center for International Forestry Research (CIFOR). CIFOR Regional Office in Belém – Pará, Brazil.
- From February 1998 until April 2004: Scientific Coordinator for the Program on Sustainable Management of Natural Forests and Representative for Latin America of the Center for International Forestry Research (CIFOR). CIFOR Regional Office in Belém – Pará, Brazil.
- From 2001 to 2002: Preparation, for the International Tropical Timber Organization (ITTO), of the "Technical Guidelines for Restoring Degraded Primary Forests, Management of Secondary Forests and Rehabilitation of Degraded Tropical Forest Lands in Tropical Regions."
- From 1997 to 2000: Leader and Researcher of the project "Management of Secondary Forests in Tropical America," working in Brazil, Nicaragua and Peru.
- From February 1996 until 1998: Leader of the Project "Diversified Management of Natural Forests" for CIFOR. Bogor, Indonesia.
- From October 1994 until January 1996: Scientific Coordinator on the Program for Natural Forest Management and Conservation for CIFOR. Bogor, Indonesia.
- From March 1992 until 1994: Leader of the project "Production in natural forests" (CATIE-AID/ROCAP-RENARM). Center for Research and Higher Education in Tropical Agriculture (CATIE). Turrialba, Costa Rica.
- From April 1990 until February 1992: Principal Forestry Advisor for the CATIE - SAREC (Swedish Authority for Cooperation in Research with Developing Countries) projects in Nicaragua. Turrialba, Costa Rica.
- From July 1987 until March 1990: Forestry Researcher for the CATIE-COSUDE (Swiss Cooperation for Development) project "Natural Forest Silviculture" and Professor in the Graduate School at the Center for Research and Higher Education in Tropical Agriculture (CATIE). Turrialba, Costa Rica.

## Forest Seeds Technology

Noemi Viana Martins Leão

Profession: Forestry Engineer

Position: Researcher at Embrapa

Nationality: Brazilian

Education:

- Masters in Forest Sciences with specialization in Forest Seeds from the University of São Paulo - USP, Piracicaba - SP, in November 1990.
- Undergraduate Degree in Forestry Engineering, from the Agrarian Sciences College of Pará - FCAP, Pará, in December 1978.

Professional Experience:

- Participation as organizer and instructor in 32 Training Activities on tree species seed collection and management, held from November 1995 to December 2002, in the States of Pará, Roraima, Acre, Amapá, Maranhão, São Paulo and Santa Catarina, with the support of ABRATES (Brazilian Association for Seed Technology/CTSF - Technical Committed for Forest Seeds), being coordinator for the period of 1995-1997.
- Team member for the German Government's "SHIFT" project, responsible for research on the reproductive phenology of tree species that occur in secondary forests, in the municipality of (PA), for the period from January 2000 to the present.
- Coordinator of the Subproject "Effect of rain exclusion on the reproductive and qualitative and quantitative phenology of trees and lianas in a forest in the Eastern Amazon, (project cooperation with The Woods Hole Research Center).
- Coordinator of the Forest Seeds Laboratory at Embrapa Eastern Amazon, in partnership with DFID/Brazil-United Kingdom Environmental Cooperation, coordinating forest research, development and extension activities from 1996 until the present.

Publications

- Leão, N.V.M.; Carvalho, J.O.P.; Barros, S.P. Fenologia reprodutiva de 25 espécies arbóreas da Amazônia Oriental (Cap. de Livro Department For International Development - DFID/Embrapa Amazônia Oriental - delivered for publication in October/2000).
- Benchimol, R.L.; Duarte, M.L.R.; Leão, N.V.M.; Albuquerque, F.C. Doenças das culturas de essências florestais. In: Doenças de plantas no Trópico Úmido Brasileiro, p. 65-83, Belém: Embrapa Amazônia Oriental, 1999. 296p.
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- Leão, N.V.M.; Ohashi, S.T.; Barros, P.L.C. de; Souza, D.B. de; Carvalho, G. dos S.; Martins, I.D.M. Programa De Sementes de Espécies Florestais Nativas no Estado do Pará. In: Quinto Congresso e Exposição Internacional Sobre Florestas - FLOREST'99, Curitiba, (PR), 15 a 18 de junho, 1999. Anais. Curitiba, BIOSFERA, 1999. CD-Rom, p.869-872.

**Plinio Sist**

**Profession:** Forestry Engineer

**Position:** CIRAD Researcher

**Date of birth:** 14/09/1961

**Nationality:** French

**Education:**

- 1989: Doctorate in "Tropical plant ecology" University Paris VI
- 1985: DEA (Masters) "Tropical ecology" University Paris VI

**Professional Experience:**

- Since April 2001: Embrapa-Cirad Agreement, Belém Eastern Amazon, Belém. Coordinator of the project Ecosilva, Improvement for harvesting and silvicultural techniques in upland forest of the Eastern Amazon.
- April 1999-April 2001: Headquarters of Cirad-Forêt Montpellier. Responsible for developing research cooperation with Embrapa.
- 1996-1999: Cirad-Forêt- CIFOR in Bogor. Natural Forest Management Program: Development of a forest management project in Eastern Kalimantan: The Impact of Reduced Impact Logging on an operational scale, project proposed to ITTO and funded for three years (1997-2000). Research Coordinator of the EIR component in the Bulungan project.
- 1991-1996: Cirad-Forêt, Indonesia (Eastern Borneo), Project STREK (Silvicultural Techniques for Regeneration in forests logged for timber in Eastern Kalimantan) Field research coordinator.
- 1990-1991: BIOTROP, Bogor, Indonesia, ICIV (Institut de la Carte Internationale de la Végétation, Toulouse) Vegetation map for Eastern Kalimantan: Field validation for vegetation types interpreted through aerial photographs and satellite images.

**Publications 1998-2003 (Since 1989 more than 50 papers published)**

Sist, P., Nolan, T., Bertault, J.G., Dykstra, D. 1998. Harvesting intensity versus sustainability in Indonesia. *Forest Ecology and Management*, 108:251-260.

Nguyen-The, N., Favrichon, V., Sist, P. 1999. Recherches sylvicoles en Indonésie. Structure de la forêt avant et après traitement sylvicole. *Bois et Forêts des tropiques*, 259: 25-44

Sist, P., Saridan, A. 1999. Stand structure and floristic composition of a primary lowland dipterocarp forest in East Kalimantan. *Journal of Tropical Forest Science* 11(4): 704-722

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

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Sist, P., Sheil, D., Kartawinata K., Priyadi H. 2003. Reduced-Impact Logging and High Extraction Rates in Mixed Dipterocarps Forests of Borneo: The Need of New Silvicultural Prescriptions. *Forest Ecology and Management*, 179: 415-427

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Sist, P.; Fimbel, R.; Nasi, R.; Sheil, D.; Chevallier, M-H. 2003. Towards sustainable management of mixed dipterocarp forests of South East Asia: moving beyond minimum diameter cutting limits. *Environmental Conservation* 30 (4): 364-374

**Osmar José Romero de Aguiar**

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**Profession:** Forestry Engineer

**Position:** Researcher at Embrapa

**Date of birth:** 07/11/1948

**Birthplace:** Belém - PA

**Nationality:** Brazilian

**Education:**

- Doctorate in Forest Products, Concentration: Forest and Wood Sciences, University: École Nationale du Génie Rural, des Eaux et des Forêts (ENGREF, Nancy, France). Thesis: Le Procédé EMBRAPA / ENGREF de Séchage Industriel Accéléré du Bois: Séchage a Transition Vitreuse
- Masters in Forest Engineering, Wood and Forest Products Technology, USP, ESALQ, Piracicaba – SP, Brazil
- Undergraduate degree in Forestry Engineering, Agrarian Sciences College of Pará – FCAP, Belém – Pará, Brazil

**Professional Experience:**

Research with doctorate at Embrapa Eastern Amazon, beginning in 1980.

**PATENTE**

Aguiar, O.J.R. de; Perré, P. Processo de secagem acelerada de madeira baseado nas suas propriedades reológicas Deposited in Brazil by EMBRAPA on 22/12/2000 with number 1265, INPI (National Institute for Industrial Protection).

**PAPERS PUBLISHED**

Aguiar, O.J.R. de. Método para controle das rachaduras de topo em toras de *Eucalyptus grandis* HILL. Ex MAIDEN, visando a produção de lâminas por desenrolamento, Piracicaba: ESALQ, 108 p. Tese de Mestrado (MSc). 1986.

Aguiar, O.J.R. de; Perré, P. Programa de Secagem Industrial Acelerada para Madeira "EMBRAPA/EMGREF" Uma Nova Filosofia para Secagem da Madeira Resumo. In: IV CONGRESSO INTERNACIONAL DE COMPENSADOS DE MADEIRA TROPICAL. Belém. ITTO/AIMEX. 1999.

Perré, P.; Aguiar, O.J.R. de. Fluage du bois vert à haute température (120°C): expérimentation et modélisation à l'aide d'éléments de Kelvin thermo-activés" *Annals of Forest Science*, 56(5), 403-416. 1999.

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Perré, P., Thiercelin, F. and Aguiar, O. A new laboratory prototype designed to test innovative drying schedules. *Drying Technology Journal*, 18(8), 1849-1863 (2000).

Aguiar, O.J.R. de, Perré, P. Determinação da temperatura de transição vítrea da madeira. - VIII Encontro Brasileiro em Madeira e em Estrutura de Madeira. Uberlândia 2002.

Aguiar, O.J.R. de. Aptidão Tecnológica da madeira VII CONGRESSO INTERNACIONAL DE COMPENSADOS DE MADEIRA TROPICAL. Belém. ITTO/ AIMEX. 2003.

## Ecologist

### Gustavo Schwartz

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Profession: Biologist

Position: Researcher at Embrapa

Date of birth: 01/08/1974

Birthplace: Santa Maria RS

Nationality: Brazilian

Education:

- Masters in Ecology (2001) from the State University of Campinas, SP -
- Undergraduate Degree in Biological Sciences (1999) – Full Licentiate from the Federal University of Santa Maria, RS

### Professional Experience:

#### Articles:

Schwartz, G & R.A. DiMare. 2001. Diversidade de quinze espécies de borboletas (Lepidoptera, Papilionidae) em sete comunidades de Santa Maria, RS. *Ciência Rural* 31(1): 49-55.

Schwartz, G., N. Hanazaki, M.B. Silva, T.J. Izzo, M.E.P. Bejar, M.R. Mesquita & G.W. Fernandes. 2003. Evidence for a stress hypothesis: hemiparasitism effect on the colonization of *Alchornea castaneifolia* A. JUSS. Euphorbiaceae by galling insects. *Acta Amazonica* 33(2): 275-279.

DiMare, R.A., E. Corseuil & G. Schwartz. Relações morfométricas em quinze espécies de papilionídeos (Lepidoptera). Artigo submetido.

Schwartz, G. 2002. Avaliação de um método para o estudo de predação em larvas de lepidópteros. *Anais da I Mostra de Iniciação Científica/ I Jornada de Pós-Graduação, Pesquisa e Extensão – Urcamp*. de novembro de 2002 – Bagé, RS.

Schwartz, G. 2002. Efeitos “top-down” e “bottom-up” na regulação de populações: uma perspectiva histórica. *Anais da I Mostra de Iniciação Científica/ I Jornada de Pós-Graduação, Pesquisa e Extensão – Urcamp*. de novembro de 2002 – Bagé, RS.

Schwartz, G. 2002. Lagartas que repousam em forma de “J”: um comportamento contra a predação por formigas. *Anais da I Mostra de Iniciação Científica/ I Jornada de Pós-Graduação, Pesquisa e Extensão – Urcamp*. de novembro de 2002 – Bagé, RS.

Procópio, L.C., N. Hanazaki, T. Pequeno, J.A. Siqueira Filho, G. Schwartz. 2003. Nectários extra-florais e formigas associadas na comunidade de plantas de borda da reserva florestal do km 41 (PDBFF/ INPA), Manaus – AM. *Anais do XVI Simpósio de Mirmecologia*. 14 a 19 de setembro de 2003 – Florianópolis, SC. Pp 408-412.

#### TEACHING EXPERIENCE:

Secondary Education; Undergraduate and Graduate (Specialization)



## **Forest Management**

### **Lia Cunha de Oliveira**

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**Profession:** Engenheira Florestal

**Position:** Professora da UFRA

**Date of birth:** 23/08/1967

**Birthplace:** Belém - PA

**Nationality:** Brazilian

**Education:**

- Doctoral student in Forest Resources, Luis de Queiroz Agricultural Higher Education School ESALQ/USP.
- Masters in Environmental Biology (1995), Federal University of Pará, UFPA, Pará, Brazil.
- Specialization in basic Sciences for environmental studies in the Amazon (1991), Federal University of Pará, UFPA, Pará, Brazil.
- Undergraduate Degree in Forest Engineering (1990), Agrarian Sciences College of Pará, FCAP, Pará, Brazil.

### **Professional Experience:**

Acting as member of the research team of the project entitled "Secondary Forest Management Project", since its conception and beginning in 1997. Participated in planning, data collection and analysis and other activities related to the project over the last five years, in its various phases.

As assistant professor at the Federal Rural University of the Amazon – UFRA (formerly Agrarian Sciences College of Pará, FCAP, Pará, Brazil), participated in advising various scholarship students within this project.

Major lines of research are management of primary and secondary forests since the masters course, concluded in 1995, with the main theme being growth and regeneration dynamics of secondary populations.

## Senior Botanist

### **Manoela Ferreira Fernandes da Silva**

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**Profession:** Agronomical Engineer

**Position:** Visiting professor at UFRA

**Date of birth:** 02/12/1949

**Birthplace:** Bragança - PA

**Nationality:** Brazilian

**Education:**

- Post-doctorate from the Royal Botanic Gardens – 1993, Kew, RBG-KEW\*, Surrey, England
- Doctorate in Biological Sciences (Botany) – 1989. National Institute for Amazon Research, INPA, Manaus, Brazil
- Masters in Biological Sciences (Botany) – 1982. National Institute for Amazon Research, INPA, Manaus, Brazil
- Undergraduate degree in Agronomy – 1975, Agrarian Sciences College of Pará, FCAP, Pará, Brazil

**Professional Experience:**

Since 1998: Working with the Secondary Forest Study Project with a view to its management, in rural properties, in the following activities:

- 1998: Participated in preparation of a proposal submitted to and approved by PRODETAB
- 1998-2002: Participation in diagnostic inventories of secondary vegetation at various ages in four rural properties in Bragança and four in Capitão Poço.
- Participation in setting up and measuring Silvicultural Experiments and Permanent Monitoring Plots
- Responsible for studying secondary forest with a view to honey production; Organizing beekeepers and pilot beekeeping facilities.
- Participation in awareness meetings with partners, workshops for returning results and other activities with the farming communities and families involved in the Project.

Advising undergraduate students: 11 students in Scientific Initiation; Masters: 9; Doctoral: 5

Participation in authoring papers presented at scientific events: 84

Papers published: 33

Books and chapters of books: 8

Since 1995: Federal Rural University of the Amazon – UFRA (formerly Agrarian Sciences College of Pará, FCAP, Pará, Brazil), – and Research Productivity Fellow for CNPq/Museu Goeldi

1976-1997: Researcher at the Museu Paraense Emílio Goeldi

**Edilson Carvalho Brasil**

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**Profession:** Agronomic Engineer

**Position:** Researcher at Embrapa

**Date of birth:** 23/06/1961

**Birthplace:** Jacundá - PA

**Nationality:** Brazilian

**Education:**

- Doctorate in Agronomy (Soils and Plant Nutrition), Federal university of Lavras - UFLA, Minas Gerais, Brazil.
- Masters in Agronomy (Soils and Plant Nutrition), ESALQ/USP, São Paulo.
- Undergraduate degree in Agronomy, Agrarian Sciences College of Pará - FCAP, Pará, Brazil

**Professional Experience:**

**Expanded abstracts in event annals**

Brasil, E.C.; Alves, V.M.C.; Marriel, I.E.; Pitta, G.V.E.; Carvalho, J.G. de. Atributos morfológicos do sistema radicular de genótipos de milho contrastantes quanto a eficiência para fósforo, em condições de estresse do nutriente. In: XXV Reunião Brasileira de Fertilidade do Solo e Nutrição de Plantas. 2004, Lages, Santa Catarina. Lages, Santa Catarina: SBCS, 2004.

Brasil, E.C.; Nascimento, E.V.S. do; Alves, V.M.C.; Marriel, I.E.; Pitta, G.V.E.; Carvalho, J.G. de. Produção de matéria seca e nutrição mineral de genótipos de milho contrastantes quanto a aquisição de fósforo em solução nutritiva. In: XXII Reunião Brasileira de Fertilidade do Solo e Nutrição de Plantas, 2004, Lages, Santa Catarina. Lages, Santa Catarina: SBCS, 2004.

Brasil, E.C.; Marriel, I. E.; Carvalho, J.G. de; Pitta, G.V.E.; Parentino, S.N.; Schaffert, R.E.; Alves, V.M.C. Morphological characteristics of the root system of contrasting maize genotypes in relation to phosphorus efficiency under phosphorus stress. In: International Symposium ON Phosphorus Dynamics In The Soil-Plant Continuum, 2003, Perth, Austrália. University of western Australia, 2003. p. 96-97.

Brasil, E.C.; Pitta, G.V.E.; Marriel, I.E.; Oliveira, C.A. de; Carvalho, J.G. de; Schaffert, R.E.; Alves, V.M.C. Phosphorus acquisition efficiency in maize genotypes. In: International Symposium On Phosphorus Dynamics In The Soil-Plant Continuum, 2003, Perth, Austrália. University of Western Australia, 2003. p. 94-95.

Brasil, E.C.; Alves, V.M.C.; Marriel, I.E.; Oliveira, C.A. de; Carvalho, J.G. de. Diversidade microbiana na rizosfera de híbridos de milho contrastantes na eficiência para fósforo sob condições controladas. In: XXV Reunião Brasileira de Fertilidade do Solo e Nutrição de Plantas. 2002, Rio de Janeiro. Rio de Janeiro: SBCS, 2002.

## Environmental Analyst

### **Rosa Maria Medeiros**

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**Profession:** Agronomist

**Position:** Environmental Analyst for IBAMA - Belém

**Date of birth:** 17/01/1969

**Birthplace:** São Paulo -SP

**Nationality:** Brazilian

**Education:**

- Masters in Rural Administration (2001), Concentration: Rural Administration and Development, Federal University of Lavras, Minas Gerais.
- Specialization in Land Reform and Settlement Program Management (1999), Federal University of Lavras / FAEPE, Minas Gerais (600 hours)
- Undergraduate degree in Agronomic Engineering (1993), Federal University of Viçosa, Minas Gerais

### **Professional Experience:**

Since 2003, holds the position of Environmental Analyst at GEREX I, IBAMA (Brazilian Institute for the Environment and Renewable Natural Resources) Belém – PA, in the Alternative Land Use Sector of the Division for Multifunctional Environmental Sustainability, responsible for analyzing palm forest management projects, reforestation projects, and circumstantiated surveys.

Acted as Adviser for Alternative Community Projects for the Brazilian Caritas - Minas Gerais Regional Office and for the Technical Assistance Center – CAT in Governador Valadares – MG.

### **Publications**

Medeiros, R.M. Mulher, terra e trabalho: trajetórias femininas na agricultura familiar mineira nos anos 1990. Lavras: UFLA, 2001. 112p. (Dissertação – Mestrado em Administração Rural).

Medeiros, R.M.; Ribeiro, E.M. As mulheres na agricultura familiar mineira: tecendo alternativas visíveis ou invisíveis? In: CONGRESSO BRASILEIRO DE ADMINISTRAÇÃO RURAL, 4., 2001, Goiânia. Anais. Lavras: UFLA/DAE, 2001. 1 CD-ROM.

Medeiros, R.M.; Ribeiro, E.M.; Pisa, E.C.C. Female work, pluriactivity and family relationships. In: CONGRESSO MUNDIAL DE SOCIOLOGIA RURAL, 10.; CONGRESSO BRASILEIRO DE ECONOMIA E SOCIOLOGIA RURAL, 38., 2000, Rio de Janeiro. Campinas: UNICAMP; Auburn: IRSA; Brasília: SOBER, 2000. p.436.

## **Environmental Annalist**

### **Luís Cláudio Landre Lot**

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**Profession:** Agronomic Engineer

**Position:** Environmental Annalist for IBAMA - Belém

**Date of birth:** 06 /04 /1974

**Birthplace:** Londrina - Paraná

**Nationality:** Brazilian

**Education:**

- Agronomy at the State University of Londrina, Paraná - 1998.

### **Professional Experience:**

2001 – 2002: Technical Assistant for the Judge's Expert in legal suits, as a petitioners' expert.

2002 to present: Environmental Analyst at the Alternative Land Use Sector, in the Belém Management office of the Brazilian Institute for the Environment and Renewable Natural Resources.

## **Journalist**

### **Ana Laura Silva de Lima**

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**Profession:** Journalist

**Position:** Journalist at Embrapa

**Date of birth:** 12/05/1976

**Birthplace:** Belém - PA

**Nationality:** Brazilian

**Education:**

- Undergraduate degree in Social Communications - 1999, Major in Journalism - Federal University of Pará - UFPA – Belém, Pará, Brazil.

#### **Professional Experience:**

Since 2001 working as a Journalist at Embrapa Eastern Amazon, responsible for External Dissemination, Internal Dissemination, Preparation of Communication Plans and Preparation of Communication Products. Previously worked as Producer for TV Liberal as Assistant Editor for the Bom Dia Pará Program, General producer and Special producer for Jornal Liberal 1ª Edição. Was Producer/Reporter hired by the Academia Amazônia Project (Federal University of Pará) responsible for production, text and editing of Documentaries and Production series, text and editing of the “Minuto da Universidade”. Was a trainee reporter for two major regional newspapers “Diário do Pará” and “O Liberal”.

#### **Some activities in the technical-scientific area:**

- “Minuto da Universidade” Program – Academia Amazônia – Jan/99 to Aug/2001
- Video-documentary for the Madam Project (UFPA/German Government) – Academia Amazônia – 2000.
- Video-documentary for the Poverty and the Environment Program – Poema (UFPA) – Academia Amazônia – 2000.

## **Marketing Annalist**

### **Marcello Monteiro Gabbay**

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**Profession:** Publicity Specialist

**Position:** Marketing Analyst

**Date of birth:** 19-10-1979

**Birthplace:** Belém - PA

**Nationality:** Brazilian

**Education:**

- Graduate program in progress: Agribusiness Management – State University of Pará – UEPA/CCNT – Belém, Pará.
- Undergraduate degree in Social Communications (2000) – Major in Publicity and Advertising - University of the Amazon – UNAMA – Belém, Pará.

### **Professional Experience:**

1999-2000: Trainee in Social Communications for the Employee Assistance Fund of the of the Bank of Brazil (CASSI-PA):

- Internal information
- Text production
- Holding and dissemination of events
- Creating layouts
- Data processing

2002 to the present: Marketing Analyst at Embrapa Eastern Amazon

- Preparation of Marketing Plans
- Technology Transfer Projects
- Articulating contracts and partnerships

### **Community Activities:**

1995-1998: Children's educator for the "Grupo Kadima" of the Jewish Community of Pará

## **Public Relations**

### **Renata Patricia Baía de Souza**

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**Profession:** Public Relations

**Position:** Higher Level Technician at Embrapa

**Date of birth:** 23/04/1975

**Birthplace:** Macapá (AP)

**Nationality:** Brazilian

**Education:**

- Undergraduate degree in Social Communications (1999) – Major in Public Relations from the University of the Amazon – UNAMA, Belém - Pará.

#### **Professional Experience:**

Public Relations employee approved by civil service examination at Embrapa Eastern Amazon; since 2002 carrying out activities of organizing events, ceremonial questions, support for special projects (Ex.: Embrapa and School), besides contributing to internal communications. Previously worked at BackOffice Solutions Agent - Callcenter, of the mobile telephone service company Amazônia Celular S.A., developing service to the public via letters and e-mails and support to the Legal Sector. Trainee in the area of Social Communications for two large companies (Telepará Celular and ALBRAS Alumínio Brasileiro S.A.), developing activities in Clipping, Wall Newspaper, Updating of notice boards, support to internal events, such as visitor reception, family visits, selection of material through clippings for newsletter, service to clients.



## **Development of Projects**

### **Odília Solange Salbê Reis**

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**Profession:** Administrator

**Position:** General Manager of FIDESA

**Data Nascimento:** 02/02/1958

**Local Nascimento:** Belém/PA

**Nationality:** Brazilian

**Education:**

- **1999-2001:** Graduate Course in Auditing and Control. University of the Amazon - UNAMA
- **1975-1979:** Undergraduate degree in Business Administration. Higher Studies Center of Pará

#### **Summary of professional experience:**

1997 to the present: Administrative-Financial Manager for projects at the Foundation Institute for Development in the Amazon - FIDESA.

- Author of the Teaching Booklet for Financial Management of Projects.

#### **Principal projects participated in as general manager of FIDESA:**

- Community Management Project: legal barriers to regularization in the State of Pará;
- Socio-Environmental Assessment of the Human Population in the Area Surrounding the Curuá-Una Hydroelectric Plant, Santarém/PA;
- Identification of Critical Areas and Revegetation around the Dam of the for the Curuá-Una Hydroelectric Plant, Santarém/PA;
- Ecotourism as an Alternative for Development and Sustainability in the Municipality of Monte Algre/PA;
- Configuration and Competitiveness in the Sawnwood and Artifacts Cluster of the State of Pará;
- Effects of Human Occupation on Plant Extractivism on the Island of Cotijuba, Belém/Pará, Brazil;
- Evaluation of Agroforestry System Models established on selected Small Properties in the Municipality of Tomé-Açu;
- Investigation of Parameters for Transport and Assessment of the Contamination Plume in the Undersurface of Aurá Landfill, Metropolitan Region of Belém/PA;
- Quality of Urban Life and Environmental Preservation: Research-action in the Castanheira neighborhood-Belém/Pará.
- Application of a Hydrological Model for Regionalizing Water Flow in a River Basin of the Amazon Region;
- Urban Landscape Design: Research in the area surrounding the Environmental Protection Area – APA/Belém;
- Indicative Instrument for Municipal Territory Management: Ecological-Economic Zoning of the Municipalities of Castanhal, Inhangapi, Irituia, Santa Izabel do Pará and Tomé-Açu, in the State of Pará.

# ANNEX C. RECOMMENDATIONS OF THE 29th ITTO EXPERTS PANEL AND RESPONSES

SPECIFIC RECOMENDATIONS	RESPONSES / ACTIONS TAKEN
1) Include a work plan showing clearly the chronogram of project activities	The work plan is presented in the body of the project (Part II, Item 6).
2) Describe the project site to be rehabilitate	We re-wrote the description of sites to be rehabilitated, the area to be planted, and the number of families to be involved. The new text is in "2.5 Technical and scientific aspects" item ii.
3) Clarify the area to be planted	
4) Justify the number of families to be involved in the project, and this number cannot be increased, and clarify the criteria for their selection	
5) Develop an evaluation and monitoring system for follow-up of activities initiated by the project and clarify how such a mechanism will be financed and who would be responsible	<p>The following text was included in the PART III, item 2:</p> <p><b>Monitoring:</b> the project will have three different forms of monitoring. The coordinator and the technical team represents the first, which means, the coordinator has the responsibility of follow-up if all project objectives have been achieved, and the technical team is part of this process. The second, represented by the Local Groups, is composed by the stakeholder leaders and their local partners organizations, and will contribute to discuss the project actions and follow the project commitments. The third is the Steering Committee, which is composed by Local Groups, and the technical team. The Steering Committee will meet four times during the project (see work plan outputs/activities 1.5.3). Additionally, ABC and ITTO will also share responsibilities for following up development of the project. Meetings (two) with ABC, ITTO and the project Steering Committee are planned and the specific dates will be determined once the project begins, but the proposed dates are April 2006 and May 2007. The project coordinator and FIDESIA will share all the logistic arrangements for those meetings.</p> <p><b>Evaluation:</b> the project will be subjected to <i>ex-post</i> 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. In both cases, the project coordination will be responsible for making the necessary adjustments.</p> <p><b>Financial mechanism:</b> the Local Groups and Steering Committee meetings will be held in Belém, and the budget is according to Table 7, item 1.5.3. In terms of de monitoring by ABC and ITTO the financial resources expected are in agreement with what is cited in Table 7.3, items 81, 82, 83 and 84.</p>

# ANNEX C. RECOMMENDATIONS OF THE 29th ITTO EXPERTS PANEL AND RESPONSES

SPECIFIC RECOMENDATIONS	RESPONSES / ACTIONS TAKEN
6) Tie-up the proposal with ITTO relevant Guidelines	We wrote a new topic named " <i>Compliance with ITTO Guidelines for the reforestation, management and rehabilitation of degraded and secondary tropical forests</i> " (see PART IV Tropical timber Framework, item 3).
7) Clarify which institution would be the Executing Agency of the project: on the cover page mentioned is made to FIDESIA, whereas in Annex A, mentioned is made to Embrapa Eastern Amazon	Embrapa Eastern Amazon is the executing agency. However, FIDESIA will be as a collaborative Institution for administrative purposes. We would like to clarify that Embrapa Eastern Amazon will supervise the project administration and financial operations, as well as responsible for reports and deadline fulfillment (see letter in Annex D).

## ANNEX D. LETTER FROM EMBRAPA



C. CGE Amazônia Oriental Nº 209

Belém, April 20, 2005

To:  
International Tropical Timber Organization – ITTO

Dear Sir,

The project "Conservation and recovery of degraded land in family agriculture units in the Eastern Brazilian Amazon", was recommended by the Twenty-ninth Panel (PD 348/03 F). We would like to clarify that the executing process of the project was done by having the Foundation Instituto for Amazon Development (FIDESIA) as a partner institution and responsible for managing the financial resources and, the Embrapa Eastern Amazon as executing institution and co-responsible by reports and financial supervise according to ABC and ITTO requirements.

Sincerely,

  
Jorge Gadel Yared  
Director of Embrapa Eastern Amazon

"Embrapa 31 anos de benefícios para a sociedade"

Ministério da Agricultura,  
Pecuária e Abastecimento

Empresa Brasileira de  
Pesquisa Agropecuária  
Serviço de Assistência Técnica

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