

**Instituto de Estudos Amazônicos - IEA**  
(Institute for Amazonian Studies)

**Community Development and Sustainable Resource Management  
in the Rio Ouro Preto Extractive Reserve, Rondônia - Brazil**

A project proposal presented to the Swiss Embassy in Brazil  
November, 1991

Summary

The concept of Extractive Reserves, which originated within the rubber-tappers' movement in Brazil, is one of the most innovative proposals for combining the objectives of social justice and the wise management of natural resources in the Amazon region. However, the success of Extractive Reserves requires support for innovative resource management strategies aimed at strengthening the subsistence base and creation of alternative sources of income among local populations. This project will support local community initiatives in promoting the sustainable management of natural resources and improved living standards among rubber-tappers in the Rio Ouro Preto Extractive Reserve in Rondônia, Brazil. Specific components of the project include support for: a) alternative strategies in the sustainable management and marketing of non-timber forest products, and (b) promotion of agroforestry systems, primarily aimed at improving the subsistence base of local populations. The proposed project, to be carried out in collaboration with the National Council of Rubber-Tappers and Association of Rubber-Tappers of Guajará-Mirim is expected to make an important contribution in promoting the viability of Extractive Reserves in social, economic, and environmental terms.

**I. Introduction**

In recent years, the Brazilian state of Rondônia has become a major focus of attention in the debates over environmental problems in the Amazon Basin. The state has been the site of one of the most alarming rates of deforestation ever witnessed in the humid tropics. By 1988, Rondônia had already lost 17.1% (4,152,100 hectares) of its primary vegetation and forest clearing continues at an alarming pace (Fearnside 1989). International attention focusing on Rondônia has been furthered by the fact that many social and environmental problems in the region have been associated with the World Bank-financed POLONOROESTE program.

The Legacy of Devastation: The POLONOROESTE program

The Northwest Brazil Integrated Development Program (POLONOROESTE) was created in 1981 with an initial budget of US\$ 1.55 billion, including over US\$ 400 million in loans from the World Bank. The main objective of POLONOROESTE was to asphalt the 1,500 km Cuiabá-Porto Velho highway (BR-364). However, during negotiations between

the Brazilian government and the World Bank, it was decided that additional measures should be taken to ensure the "orderly socio-economic development" of this frontier region that had been opened to colonization by landless migrants and cattle ranching during the 1970s. Specific project components were designed for protection of the natural environment and support for Amerindian communities, land tenure services, public health, infrastructure and support services within existing settlement areas, and creation of new settlement projects (IBRD 1981).

By the mid-1980's, there was already considerable evidence to confirm that the principal objectives of POLONOROESTE were not being reached. During the project's implementation, rates of forest clearing increased sharply. The paving of the highway stimulated further migration and land speculation in the Northwest region. While POLONOROESTE sought to promote the adoption of perennial crops among small-farmers as a sustainable land use alternative, most settlement areas were increasingly dominated by cattle pasture—one of the most destructive and least sustainable forms of land use in the humid tropics (Goodland 1980; Hecht 1983, 1985). The expansion of cattle pasture and accelerated deforestation were associated with high rates of colonist turnover in settlement areas (Millikan 1984, 1988; FAO-CP 1987; Torres 1988).

During the implementation of POLONOROESTE, invasions of forest and Amerindian reserves by loggers, squatters, and land speculators became increasingly commonplace. Moreover, the POLONOROESTE program did not take into account the presence of rubber-tappers (seringueiros), Brazil nut gatherers (castanheiros), and other traditional riverine populations (ribeirinhos) in the project region. The process of accelerated frontier expansion associated with POLONOROESTE meant that a large number of these forest and riverine peoples were expelled from areas they had traditionally occupied, especially due to the creation of government-sponsored colonization projects, land speculation, logging companies, and the influx of landless farmers.

### Social Justice and the Environment: The Extractive Reserves Proposal

The disastrous lessons of the POLONOROESTE project in Rondônia and Mato Grosso were a major factor underlying the mobilization by rubber-tappers in Acre to oppose the further asphaltting of a stretch of the BR-364 highway (between the capital cities of Porto Velho and Rio Branco) unless adequate measures were taken by the Brazilian government and the Inter-American Development Bank (IDB) to ensure that the seringueiros in the region affected by the road would not suffer a similar fate to many of their neighbors in Rondônia.

One of the innovative proposals that emerged within the rubber-tappers' movement during this period—which coincided with the First National Meeting of Rubber-Tappers and the creation of the National Council of Rubber-Tappers (Conselho Nacional dos Seringueiros/CNS in 1985)—was the creation of "extractive reserves". The concept of an "extractive reserve" can be described succinctly as follows:

The creation of "Extractive Reserves" can be applicable to areas occupied by an existing population within Amazonian ecosystems that depends upon forest extraction and other sustainable uses of natural resources, utilized at least partially on a common property basis, for its survival. In such areas, tenure rights are regularized collectively through a land use

concession, transferred by the government to a legally-constituted community association. Within extractive reserves, natural resources are utilized according to a management plan that guarantees social benefits for its members and the ecological integrity of the region. Local community initiatives in marketing, health and education should also be encouraged.

The rubber-tappers' proposal for extractive reserves is exceptional in several regards. In contrast to historical trends of authoritarianism and centralized decision-making in regional development planning, in which traditional populations of seri, queiros, ribeirinhos, and caboclos have systematically been excluded, the proposal for extractive reserves emerged at the grassroots level within a social movement of local Amazonian inhabitants. As is well-known, the center of the rubber-tappers' movement in the Brazilian Amazon has been the state of Acre, where the local population has organized to resist invasions of extractive areas by cattle ranchers and land speculators since the 1970s.

The concept of extractive reserves is also unique in that it combines the objectives of social justice, socio-economic development, and sustainable management and protection of Amazonian ecosystems. The absence within existing Brazilian law of land use categories combining the land tenure, socio-economic, and environmental objectives of extractive reserves resulted in the need to create specific legislation at the federal level, a task in which the CNS and the Institute for Amazonian Studies (IEA) have played key roles (IEA 1990). This legislation has included:

- Portaria no.627 (30 June 1987) of INCRA (National Institute for Colonization and Agrarian Reform), which included Extractive Reserves in the National Plan for Agrarian Reform. Through this legislation, ten "Extractive Settlement Projects" (Projetos de Assentamento Extrativista) were created in the states of Acre, Amapá, and Amazonas, totalling 889,548 hectares, in an area occupied by 2,924 families. However, the INCRA legislation required the previous expropriation of private landholdings, which considerably slowed the process of creating new extractive reserves. Moreover, the creation of "extractive settlement projects" lost momentum when agrarian reform ceased to be a priority of the federal government.

- the reformulation of Brazil's "National Environmental Policy" (Law no. 7.804, 18 July 1989) which included in article 09, paragraph VI, the possibility of "creating territorial spaces especially protected by the federal, state and municipal governments, such as areas of relevant ecological interest and extractive reserves";

- the promulgation of Presidential Decree no. 98.987 (30 January, 1990) which details legal aspects of the creation of extractive reserves within the National Environmental Policy. According to this decree, extractive reserves can be treated independently of previous land expropriations, speeding the process in areas suffering land clearing and other pressures, with eventual expropriations to be defined by IBAMA.

Based on proposals elaborated by CNS in collaboration with IEA, four Extractive Reserves have been created in the Brazilian Amazon, covering an area of 2162,989 hectares occupied by an estimated total of 6,250 families. These four areas include the Chico Mendes and Alto Juruá Extractive Reserves in the state of Acre, the Rio Cajari Extractive Reserve in the state of Amapá and the Rio Ouro Preto Extractive Reserve in the state of Rondônia. The Rio Ouro Preto Extractive Reserve, created by Presidential

Decree no 99.166 on March 13, 1990, covers an area of 204,583 ha in the region of Guajará-Mirim. The Rio Ouro Preto Extractive Reserve is included in the project region of the present proposal.

The creation of Extractive Reserves has represented an important step in recognizing the historical rights of rubber-tappers and promoting alternatives to recent trends of environmental devastation in the Amazon Basin. However, there remain important challenges to attaining the social, economic, and environmental objectives envisioned in the extractive reserves proposal.

Although seringueiros living in Extractive Reserves have achieved legal guarantees to control over natural resources, local populations are facing an extremely difficult situation in socio-economic terms. The official price of rubber has fallen drastically in relation to the costs of purchased goods and services—resulting in deteriorating terms of trade and consequently, a decline in the standard of living of the local population. Historically, socio-economic relationships in the seringal have been based on highly exploitative patron-client systems that can only be transformed through community organizing. Basic healthcare and educational services in many areas are practically non-existent. In many cases, rubber-tapper families are abandoning the seringal in search of alternative means of survival, usually joining the ranks of the marginalized urban poor.

In summary, the consolidation of extractive reserves requires addressing such critical needs as: (a) establishing alternative marketing systems that improve terms of trade for the local population (b) identifying alternative sources of income while guaranteeing the wise management of natural resources (c) improving the subsistence base and self-reliance of local communities, and (d) establishment of programs in basic health and education that are adapted to the realities of the local population.

### The Project Region: A Brief Description

Since the early days of the rubber boom, the region of Guajará-Mirim, located in western Rondônia along the border with Bolivia, has been a major focus of rubber-extraction in the Brazilian Amazon. Like elsewhere in the Amazon Basin, a large contingent of migrants, mostly from impoverished and drought-stricken Northeast Brazil, were recruited to work as rubber-tappers (seringueiros), under a highly-exploitative system of debt peonage, controlled by the owners or lessees of forest lands (seringalistas) and larger trading houses (casas de aviamento) located in Manaus and Belém.

The project region includes the hydrographic sub-basins of three rivers: Rio Ouro Preto, Rio Pacaas Novos and Rio Novo. The Rio Ouro Preto and Rio Novo are tributaries of the Pacaas Novos, a tributary of the Rio Mamoré, which becomes the Rio Madeira upon its confluence with the Rio Beni. The headwaters of these rivers are located in the Serra dos Pacaas Novos, an ancient sandstone plateau. All three are "black-water" rivers which seasonally inundate floodplain forests in their drainage basins. Various types of open tropical forest constitute the predominant forms of vegetation, although pioneer formations and transitional vegetation to tropical savannahs can also be found. Most soils have limited agricultural potential, especially the alluvial soils composed of Holocene sediments. The region has a warm tropical climate, with a mean annual temperature of 25 C and an average annual rainfall of

2,200 mm. Precipitation varies from an average of 300 mm during the rainy season (November-May) to 80 mm during the "dry season" (June-October).

Despite the construction of a penetration highway (BR-425) and the creation of a small-farmer settlement project (PIC Sidney Girão) in the early 1970s, the region of Guajará-Mirim has not experienced the same process of rapid frontier expansion as elsewhere in Rondônia. Despite the rise and fall of the rubber booms, over 400 families of rubber-tappers continue to reside along the three rivers and their tributaries, which are used as the principal source of transportation. However, encroachments by cattle ranchers, timber companies, and commercial fishermen have increasingly occurred in areas occupied by seringueiros and indigenous peoples in the region of Guajará-Mirim.

The great majority of rubber-tapper families reside in "cokocações" located along the main rivers and their tributaries, which serve as the primary means of local transportation. The floodplain forests along the three rivers possess high density stands of natural rubber (Hevea brasiliensis). In the upland forests (terra firme), the species Hevea benthamiana ("seringueira itaúba" or "seringueira vermelha") is more common, being relied upon as an economic alternative during the rainy season—when tapping along the seasonally-flooded varzea forests becomes inviable in many areas.

Rubber-tapper families produce an average of 1,200 kg of rubber annually. Brazil nuts (Bertholletia excelsa) constitute a complementary source of income, although depressed local prices have discouraged their collection in recent years. A variety of forest products are used for domestic consumption and utilitarian purposes. Several non-timber forest species that can be sustainably harvested, such as copaiba (Copaifera spp.), pataúá (Jessenia bataua), babau (Mauritia flexuosa), bacaba (Oenocarpus bacaba) and açai (Euterpe spp.) display potential as alternative sources of income.

In the past, cultivation of agricultural plots was prohibited by seringalistas in order to maximize the time devoted by seringueiros to rubber-tapping and increase their dependence on marketed goods sold by patrons. In recent years, with the decline of the seringalistas, cultivation of small plots of land has become more commonplace. The agricultural practices of rubber-tapper families may include the cultivation of staple crops (particularly manioc and maize, as well as rice and beans), fruit trees (e.g. banana, papaya, guava, cashew, etc.), as well as medicinal plants and vegetable gardens. The primary source of protein in local diets comes from artisanal fishing, complemented by hunting wild animals (which have become increasingly scarce) and the raising of small livestock (primarily chickens, ducks, and pigs).

A considerable number of rubber-tappers residing along the floodplain move to Guajará-Mirim during the rainy season in search of employment. Due to low wages and a depressed urban labor market in Guajará-Mirim, there is considerable interest among seringueiros in creating the conditions necessary to remain in the seringais during the entire year. Moreover, many former rubber-tappers currently living under marginal conditions in the town of Guajará-Mirim are interested in returning to the seringais.



## Community Organizing: Recent Activities in Guajará-Mirim

The National Council of Rubber-Tappers (CNS), the Institute for Amazonian Studies (IEA) and the recently-created Association of Rubber-Tappers of Guajará-Mirim have already initiated a series of activities aimed at supporting community-based development and the sustainable management of natural resources in the region of Guajará-Mirim, Rondônia.

In February, 1989, the National Council of Rubber-Tappers promoted the first Regional Meeting of Rubber-Tappers in the region of Guajará-Mirim, in collaboration with the Institute of Amazonian Studies and the Rondônia State Forestry Institute (IEF/RO). The meeting included the participation of over 400 rubber-tappers, representatives of several other NGOs, and government officials. The meeting was coordinated by Raimundo Mendes de Barros, rubber-tapper leader from Iapuri, Acre, member of the board of directors of CNS, and cousin of Chico Mendes.

As a result of the meeting, a Municipal Commission of Rubber-Tappers, linked directly to CNS, was formed in Guajará-Mirim in 1989. The process of grassroots organizing initiated during this event was a major contributing factor in the creation of the Rio Ouro Preto Extractive Reserve in March 1990, an accomplishment that reflected the joint efforts of CNS, IEA, and local rubber-tapper leaders in conjunction with state and federal government officials.

Another result of the meeting was that seringueiros from the three main rivers in the region (Rio Ouro Preto, Rio Pacaas Novos and Rio Novo) decided to refuse to pay rent (approximately 150 kg of rubber per family each year) that had been illicitly charged by rubber-barons (*seringalistas*) in the region. When the *seringalistas* boycotted the rubber-tappers by refusing to supply goods, members of the local municipal commission purchased a boat with support from the local Diocese in Guajará-Mirim and initiated an alternative marketing network on the Rio Ouro Preto.

During the current year, both the CNS and IEA have intensified their activities in the region of Guajará-Mirim. In January 1991, a team composed of Raimundo de Barros (CNS), José Wilson Nunes (rubber-tapper leader from the Rio Ouro Preto and CNS representative in Rondônia), José Maria dos Santos (Municipal Commission of Rubber-Tappers of Guajará-Mirim), and Brent Millikan (IEA/Rondônia) visited approximately 60 "colocações" along the Rio Ouro Preto, Rio Pacaas Novos, and Rio Novo to meet individually with rubber-tapper families to discuss their problems and ideas for alternative solutions. This visit was followed in February 1991 by a series of eight community meetings held along the three rivers, in which the team met with over 400 rubber-tappers. During the meetings, a wide range of topics was covered (origins of the CNS and the rubber-tappers movement, objectives of extractive reserves, problems and alternative solutions in the areas of marketing, natural resource management, health, education, etc.).

In March 1991, the National Council of Rubber-Tappers, in collaboration with IEA, promoted a leadership training course that included over 40 local representatives selected by their neighbors during the community meetings held in February. The training course provided an opportunity for more in-depth discussion on the philosophy and methods of grassroots organizing, and the planning of various concrete activities. A portion of the course was devoted to discussions with representatives of government agencies responsible for health and educational

services. Discussions were also held with officials of IBAMA, the federal agency responsible for the creation and protection of Extractive Reserves.

One of the most promising outcomes of this recent meeting was that participants decided to create the Association of Rubber-Tappers of Guajar-Mirim (Associao de Seringueiros de Guajar-Mirim-ASGM), whose directorship is composed entirely of local rubber-tapper leaders. Based on conclusions of the community meetings held during February and the subsequent event held in Guajar-Mirim during March, the ASGM has defined the following priorities:

- a) create marketing alternatives that offer more favorable prices for rubber and other products while lowering costs for goods purchased by the local population;
- b) investigate alternative sources of income through the sustainable management of natural resources, as a means of decreasing excessive dependence on rubber;
- c) improve the subsistence base and self-reliance of the local population, particularly through the promotion of agroforestry systems;
- d) provide basic services in primary healthcare and education;
- e) protect extractive areas against incursions by commercial fishermen, loggers, and other outsiders, with community members playing an active role in enforcement;
- f) creation of an Extractive Reserve in the adjacent region of the Rio Pacaas Novas and Rio Novo;

Since the creation of Association of Rubber-Tappers of Guajar-Mirim (ASGM) in March 1991, recent activities have included the following:

- structuring and organization of marketing activities in the Rio Ouro Preto Extractive Reserve; contacts with alternative rubber-processing plants in Rondnia for sale of rubber at more advantageous prices than offered by local buyers in Guajar-Mirim; contacts with various wholesalers in Rondnia to define lowest-cost sources of consumer goods marketed by ASGM to rubber-tapper families;
- initial contacts to evaluate the economic potential of alternative extractive products, e.g. marketing of Brazil nuts via the Agro-Extractive Cooperative in Xapuri, marketing of copaiba oil in conjunction with IPHAE (Institute for Pre-History, Anthropology, and Ecology) and Cultural Survival;
- negotiations with government agencies in order to secure support for initiatives in community health, education, and technical assistance in agroforestry;
- negotiations with IBAMA to define a strategy for protecting extractive areas in Guajar-Mirim, including training of community members to participate in enforcement activities;
- contacts with non-governmental organizations to define strategies of collaboration in the areas of natural resource management, economic alternatives, community health and education.

## II. Project Activities

### General Objectives

• Contribute to the consolidation of the Rio Ouro Preto Extractive Reserve as an alternative strategy for community development and environmental conservation in the Brazilian Amazon, based on improved living standards of local residents and the sustainable management of natural resources.

### Specific Objectives

• To provide support for alternative management strategies for non-timber forest products, aimed at improving household incomes among rubber-tappers families within the Rio Ouro Preto Extractive Reserve.

• To initiate pilot activities in agroforestry systems, aimed at improving the subsistence base and self-reliance of local populations, as well potentially contributing to alternative sources of income.

### Project Components

#### 1. Alternative Forest Management Strategies

This component of the project will provide support for (a) feasibility studies on the socio-economic and environmental aspects of promoting alternative extractive activities, (b) initial support for marketing of two promising forest products, Brazil nuts and copaiba oil and (c) a pilot experience in household rubber-processing as a strategy for increasing value-added to latex extraction, using alternative collection techniques and installation of a mini-processing facility.

##### 1.1 Feasibility studies on alternative forest products:

In this project activity, a field research team (consisting of a tropical forest ecologist, botanist, and anthropologist together with community members) will collect data necessary to evaluate the potential for marketing alternative forest products with high economic potential. Data will be collected within sample plots representative of vegetation types, focusing on the following variables:

- a) natural densities of high-priority species among vegetation types;
- b) dynamics of regeneration of priority species through natural and human-induced mechanisms;
- c) management techniques currently used by community members, identifying techniques required for sustainable management of forest species;
- d) aspects of productivity and seasonality among priority species;



e) capital and labor demands, processing, and transportation requirements for the marketing of alternative extractive products; complementarity with existing household activities;

This component of the project will be carried out in collaboration with IPHAE and the National Institute for Amazonian Research (INPA). As part of feasibility studies for alternative extractive products, information will be collected on market possibilities for alternative extractive products (e.g. Body Shop, Cultural Survival, Agro-extractive Cooperative in Tapuri, Acre, etc.), including local and regional markets.

### 1.2 Support for marketing of Brazil nuts and copaiba oil

This project activity will provide support for the marketing of Brazil nuts (Bertholletia excelsa) and copaiba oil (Copaifera spp.), two forest products with considerable economic potential, by the Association of Rubber-Tappers of Guajará-Mirim. Funds are included for (a) purchase of animals for transportation of extractive products, (b) work instruments for the opening of forest trails in extractive areas, and (c) basic supplies for local community members engaged in opening new extractive areas, and (d) a small rotating fund of working capital for the purchase of these alternative extractive products by the local rubber-tappers' association.

### 1.3. Alternative strategies for rubber processing:

This project activity will provide funds for establishment of a mini-processing facility that can be cheaply and easily introduced at the household level. The mini-facility produces "placa fumada" (smoked sheets of rubber) that have a significantly higher price than unprocessed latex. The project will also include funds for purchase of plastic cups for rubber-collection, avoiding the problem of rusting that occurs with metal cans, which significantly decreases the quality of rubber. Monitoring of this component of the project will include collection of data on labor demands to assess relative gains from marketing semi-processed rubber. This activity will be coordinated by IEA and IBAMA, in coordination with the Quirino do Norte processing plant in Rondônia, which has offered technical assistance and a guaranteed price for semi-processed rubber in the form of "placa fumada".

## 2. Agroforestry Systems

There is considerable interest among community members in the promotion of agroforestry systems as a means to (1) improve the subsistence base and nutritional status of the local population (2) substitute products currently purchased on the market, such as coffee and sugar (3) provide alternative sources of income, and (4) avoid the necessity of moving to the town of Guajará-Mirim during the rainy season.

This project component will provide support for the following activities:

a) Consultancy services by agroforestry specialists from INPA, IPHAE, and the Brazilian Agroforestry Network (REBRAF). In conjunction with community members and technical staff of government agencies (EMBRAPA, Brazilian Agricultural Research Enterprise, and EMATER, Technical Assistance and Rural Extension Service) preliminary field visits will be made to various colocações to collect detailed information on existing agricultural systems (crop mixes, fallow cycles, yields, soil conditions, weed and pest management, stress points in agroecological productivity, etc.). (Since local agronomists from EMATER in Guajará-Mirim will be responsible for

technical assistance on a long-term basis, they will benefit considerably from this initial contact with agroforestry consultants).

b) There are several locations along the Rio Ouro Preto where seringueiros living in seasonally-flooded areas are organizing to initiate community-based agroforestry plots, as sources of food and potential income-generation during the rainy season. These "roças comunitárias" (community gardens) will be located in areas of previously-cleared secondary forest in higher fertility, well-drained soils. Community members are interested in introducing management systems will combine the production of basic food crops (manioc, maize, rice, and beans), fruit trees (banana, papaya, cupuaçu, cashew, citrus, pupunha, açai, etc.), and species that will enhance soil conditions (e.g. ingá, gliricídia, flemingia, etc.). It is also planned that small animal husbandry (chickens, ducks, and swine) will be integrated into management systems. This component of the project cover costs associated with construction of tree nurseries, technical assistance, community training, and provision of seeds and other basic inputs.

c) In addition to community gardens, this component of the project will support agroforestry systems at the level of individual households (colocações), through training, technical assistance, and basic input supplies.

d) Within this project component, funds are included for purchase of an outboard motor boat, for permanent use in agroforestry extension services. The project will also help cover costs of boat fuel and maintenance during a two-year period.

Selected agroforestry plots will serve as observation and demonstration units, where growth parameters and factors affecting agroecological productivity will be monitored by community members in collaboration with EMATER. Agroforestry extension activities will be emphasize a community-based approach (meetings, "field days", and training sessions, organized in collaboration with ASGM), covering such topics as construction of nurseries, seedling production, inter-cropping systems, fallow management, marketing possibilities, etc.).

### 3. Project Administration

The project will be coordinated by the Institute for Amazonian Studies, working in close collaboration with local representatives of the National Council of Rubber-Tappers (CNS) and the Association of Rubber-Tappers of Guajará-Mirim (ASGM).

The administrative component of the project will provide funds in the following areas:

- a) secretarial and administrative assistance,
- b) office equipment and supplies,
- c) office expenses (xerox, telephone, fax, etc.)

### III. Project Budget (Duration: 12 months)

U.S. dollars

#### 1. Alternative Forest Management Strategies

Boat fuel and maintenance.....	1,200.
Food and field supplies.....	800.
Field Researchers (INPA, IPHAE, local field assistants).....	2,800.
Data analysis and reports.....	1,200.
Construction of mini rubber-processing facility.....	1,400.
Consultants (IBAMA, Quirino do Norte).....	800.
Plastic cups for latex collection.....	1,800.
Ten pack animals with equipment.....	3,400.
Work instruments.....	1,000.
Supplies for tapper families (03 months).....	1,600.
Rotating fund for purchase of alternative extractive products.....	4,000.
Sub-Total (1).....	20,000.

#### 2. Agroforestry Systems

Boat fuel and maintenance.....	1,800.
Food and field supplies.....	1,200.
Consultants (INPA, REBRAP, IPHAE).....	2,800.
Soil analysis (EMBRAPA).....	1,000.
Fruit Tree Nurseries (equipment and supplies).....	1,800.
Seeds and other inputs.....	1,400.
Sub-Total (2).....	10,000.

#### 3. Project Administration

Administrative assistant (US\$ 200/month x 12).....	2,400.
Office equipment and supplies.....	1,400.
Office expenses (telephone, xerox, etc.).....	1,200.
Sub-Total (3).....	5,000.

**Total Project Budget.....US\$ 35,000.**

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**V. Address for contact:**

Instituto de Estudos Amazônicos  
Mary Allegretti, Presidente  
Rua Monte Castelo 380 - Tarumá  
Curitiba - Paraná, 82.500  
tel: (041) 262-9494, fax: (041) 264-7152