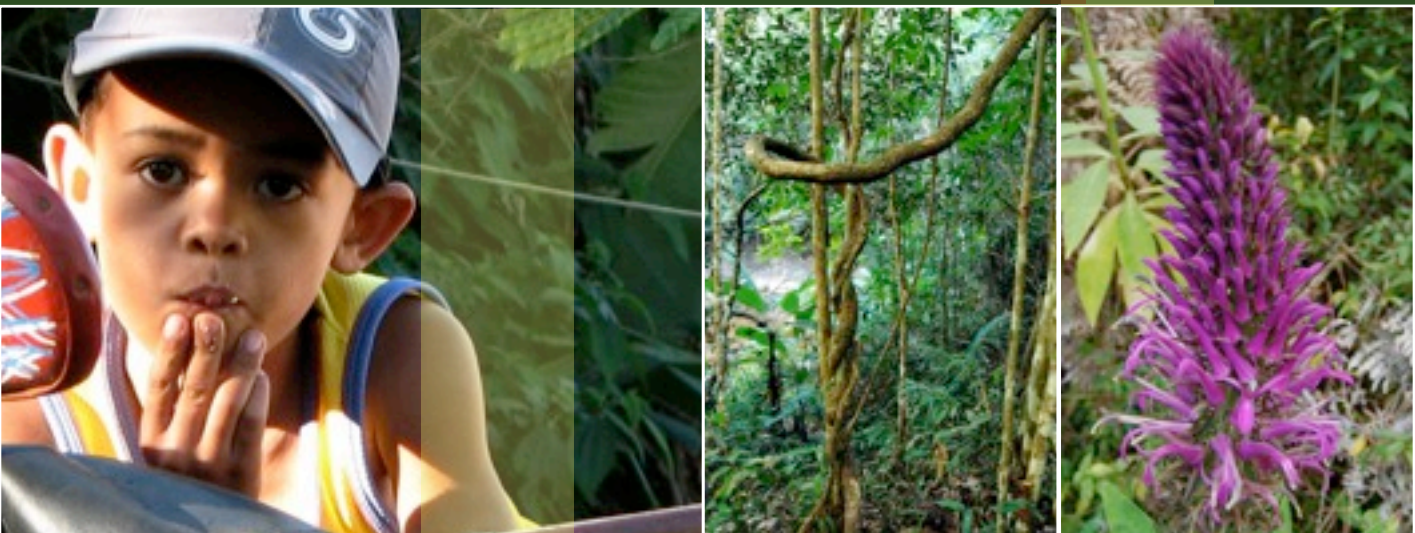


iracambi

Atlantic Forest - Brazil



Doing our bit



**Serra do Brigadeiro**

Natural Resources Manage-

here's where we do **our bit**



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Cover page, left: Marlon Ortega

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# here's where we work

## The Atlantic Forest

The Atlantic Forest of Brazil is a neotropical forest of globally outstanding importance: an area of special biodiversity as evidenced by the high number of endemic species found nowhere else in the world, many of which are highly

threatened. In the State of Minas Gerais the degree of deforestation has been even higher than the national average and only 5% of the original forest remains

## The Serra do Brigadeiro State Park

The Serra do Brigadeiro State Park, located in the southeastern Zona da Mata region of Minas Gerais, shelters one of the state's highest priority conservation areas. The park is known to host a number of newly discovered plant and animal species, large numbers of endemic species and many of Brazil's endangered species, including the highly endangered woolly spider monkey (*Brachyteles hypoxanthus*), of which only about 1500 exist in the world.

The Park, which covers an area of 150km<sup>2</sup> is administered by the State Forestry Institute, supported by a consultative council. The Buffer Zone, legally defined by the Park management plan, is an area of approximately 75,000 acres around the perimeter of the Park that is intended to enhance the protection of the core conservation area of the Park.

Iracambi has already restored and enriched 500 acres of Atlantic Forest with native species hardwoods. We link isolated forest fragments, contributing towards biodiversity conservation, conserving water resources and increasing genetic diversity.



# deforestation

## The Serra do Brigadeiro Development Territory

In 2003 the federal government initiated a new development strategy, joining groups of counties into development territories. The Development Territory of the Serra do Brigadeiro, one of the first territories to be created in the state of Minas Gerais, consists of the nine counties that adjoin the state park, covering an area of 3000 km<sup>2</sup> (1,864 sq miles) with a population of 171,000 of whom 80,000 depend di-

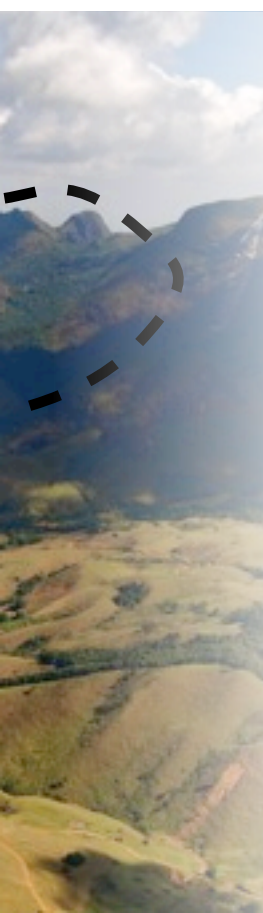
rectly or indirectly on family farming. The development priorities identified by the territory council are: biodiversity conservation, support for family farming, enterprise development, rural ecotourism and the preservation of local culture.

## The problem of deforestation

The principal cause of the destruction of the Atlantic Forest has historically been the conversion of forest lands for agriculture, animal husbandry and cutting the trees for uses such as supplying energy for industry and timber for construction. Modern forms of agriculture and animal husbandry based on high energy use and the use of fertilizers, contribute towards the degradation of natural resources. The decapitalization of the farming industry, allied with the degradation of the soils strengthens the pressures on the remaining small forest fragments in the Atlantic Forest. Forest loss brings increased exposure to erosion, loss of soil fertility and damage to water resources, impoverishing the very resource farmers depend on – their land.

ment of comparable value in the land contributes to the de-capitalization of rural areas in favor of urban ones, leading to rural exodus and further degradation of rural resources. Yet the act of simply conserving biological resources will not in itself solve the problem of the smallholder farmer who needs to sustain his family; conservation must be accompanied by other measures that will ensure the sustainability of land use, and this is what the project seeks to address.

At the same time, this ecologically fragile and economically weak area faces the possibility of large-scale bauxite extraction. Mining brings certain financial benefits to subsistence farmers, but its long-term effect is unlikely to be beneficial for them. Extracting a non-renewable resource without an invest-





doing **our bit** with help from across the world

# who we are

Iracambi is a non governmental organization which has been working since 2000 in partnership with rural communities, government agencies and other NGOs to conserve and restore the Atlantic Forest and improve the lives of the people who live in the conservation area of the Serra do Brigadeiro State Park.

Iracambi played an important part in the development of the Territory, has been working since late 2007 with the Inter American Foundation in five of the nine counties of the Territory, and plans to expand to the remaining four. IAF- financed activities include support for conservation in the buffer zone of the state park, helping the local population to manage the effects of large scale bauxite mining and encouraging income generating activities for family farmers.

Activities requiring supplementary funding include our work with public policies, expanding our GIS, acquiring areas of threatened forest, natural resource inventories and institutional support.



## Iracambi counts on the support of the following organizations



# the project

*The objective of the project is to work with all the stakeholders in the Serra do Brigadeiro Development Territory to make the conservation of the Atlantic Forest more attractive than its destruction.*


## Principal goals

- Support municipal planning authorities and local communities in establishing 10 Environmental Protection Areas.
- Create 6 miles of agro-ecological corridors. Establish agro-forestry systems focusing on native species as part of a strategy to conserve and restore forest fragments.
- Acquire, conserve and restore strategic forest areas (750 acres) in the conservation area, focusing on areas where biodiversity conservation is at greatest risk.
- Develop pilots for small businesses on 10 smallholdings.
- Train 12 families to create products based on sustainably harvested medicinal plants.
- Set up pilot projects in community based ecotourism and payment for environmental services

## Numbers

- Territory: **1,864 square miles**
- Acres reforested **25,000 acres**
- Population affected: **171,000**
- Total investment: **US\$3.85 million**



A photograph of three children outdoors. In the foreground, a young boy with dark hair is smiling broadly, wearing an orange t-shirt with the text 'suburbans' and 'Stre' visible. To his right, a young girl with curly hair is also smiling, wearing a blue t-shirt. In the background, a young girl with long dark hair is smiling, wearing a yellow t-shirt with a colorful graphic. To the left, another young girl with light brown hair is smiling, wearing a light green t-shirt. The background shows a grassy area and a grey brick wall.

doing **our bit** for their future

# creating and managing EPAs

(Environmental Protection Areas)

Forest areas within the buffer zone are theoretically protected, but the creation of EPAs is a vital element in an integrated conservation strategy, giving local authorities not only the incentive but also the powers to manage their land and implement effective conservation policies. The creation of EPAs will encourage the communities to create ecological corridors linking remnant forest patches in the EPAs with the state park

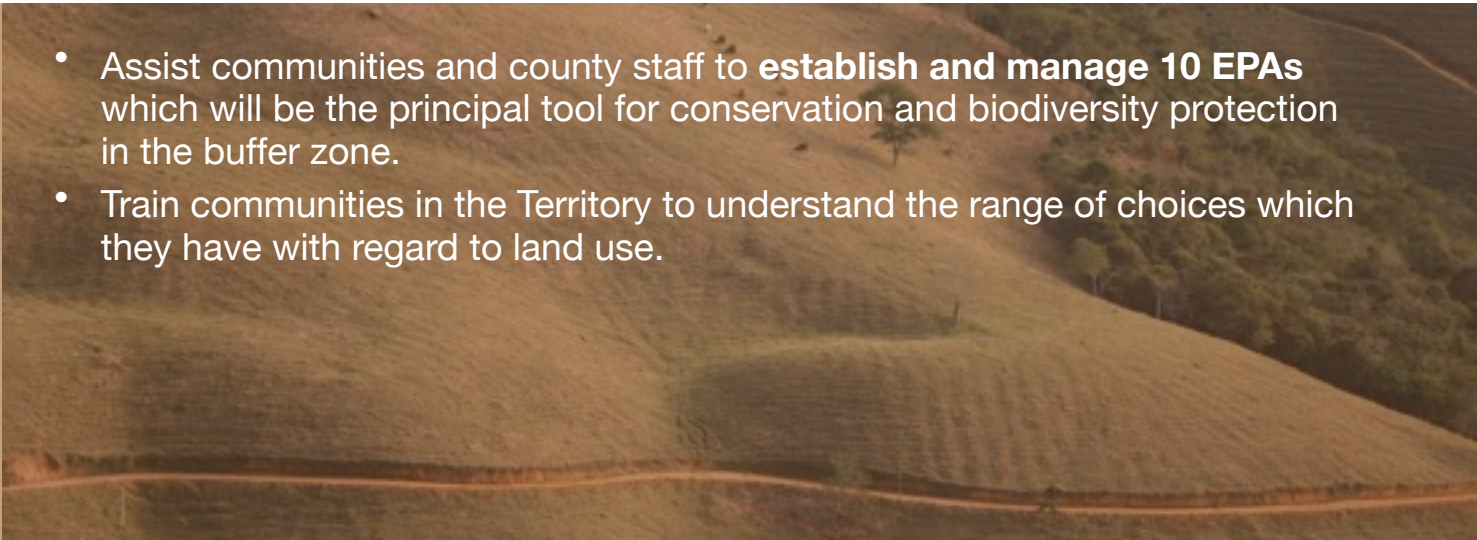
The project aims to strengthen the two EPAs in Rosario da Limeira as models for the rest of the Territory. Farmers will be trained to understand the real powers they have over land management in the EPAs, turning them into active decision takers and showing how the collective process of decision making can improve the use of natural resources to benefit all the members of the community.

## Doing our bit

Based upon the experience that Iracambi has gained working with Rosário da Limeira county government in setting up management committees and management plans in each EPA, Iracambi is uniquely qualified to expand its EPA work into the other counties. After obtaining financial resources to contract personnel for development planning, training, and area coordination, activities will include:

- Adapting existing technical assistance methodology for EPA management;
- Adapting existing training curricula for local government environment staff and EPA committees on planning concepts, environmental management, and environmental law;
- Continuing ongoing research on decision making processes within the Territory ;
- Identifying areas where the land tenure problems adversely affect land use management decisions and developing appropriate responses.

- Assist communities and county staff to **establish and manage 10 EPAs** which will be the principal tool for conservation and biodiversity protection in the buffer zone.
- Train communities in the Territory to understand the range of choices which they have with regard to land use.



# forest futures

The scheme purchases strategically located parcels of land within the buffer zone with the objective of increasing the contiguous land area under conservation management. These land purchases will help anchor ecological corridors to be created within the EPAs, strengthen the buffer zone by increasing forest cover and habitat, and add to the body of conserved land around the Park. This is particularly important because, when the Park was established, certain areas of

biological significance were excluded for lack of resources.

Priority will be given to forest areas contiguous to the park boundary or to other forest areas in the buffer zone. All lands purchased will be legally registered as conservation land and maintained holdings belonging to Amigos de Iracambi, to be used for research into conservation biology with community participation.

## Doing our bit

In order to buy the 600 acres of land that fit into project criteria we shall require around \$120,000. In order to achieve this goal we propose to do the following:

- Step up marketing efforts to complete an initial purchase of 150 acres of land bordering Iracambi, on which an option is currently held;
- Identify potential parcels of land of strategic importance and determine their availability so that, once sufficient funds are available, additional purchases can be made;
- Register these lands and create a plan to restore the forest and conserve natural resources through ecological and forest corridors ;
- Develop systems of agro-forestry and agro-ecology to guarantee income generation and ensure the sustainability of these protected areas.

- Buy parcels of threatened forest land which are currently available (**approx 600 acres**), with the objective of reforesting and conservation.



# forest corridors

One of the consequences of the severe deforestation in the area is the fragmentation of the forests into isolated patches which are generally too small to maintain viable populations of native flora and fauna. Iracambi has been adapting the concept of creating productive forest corridors to join these fragments, not only with one another but with the larger biological resource which is the state park. This will require

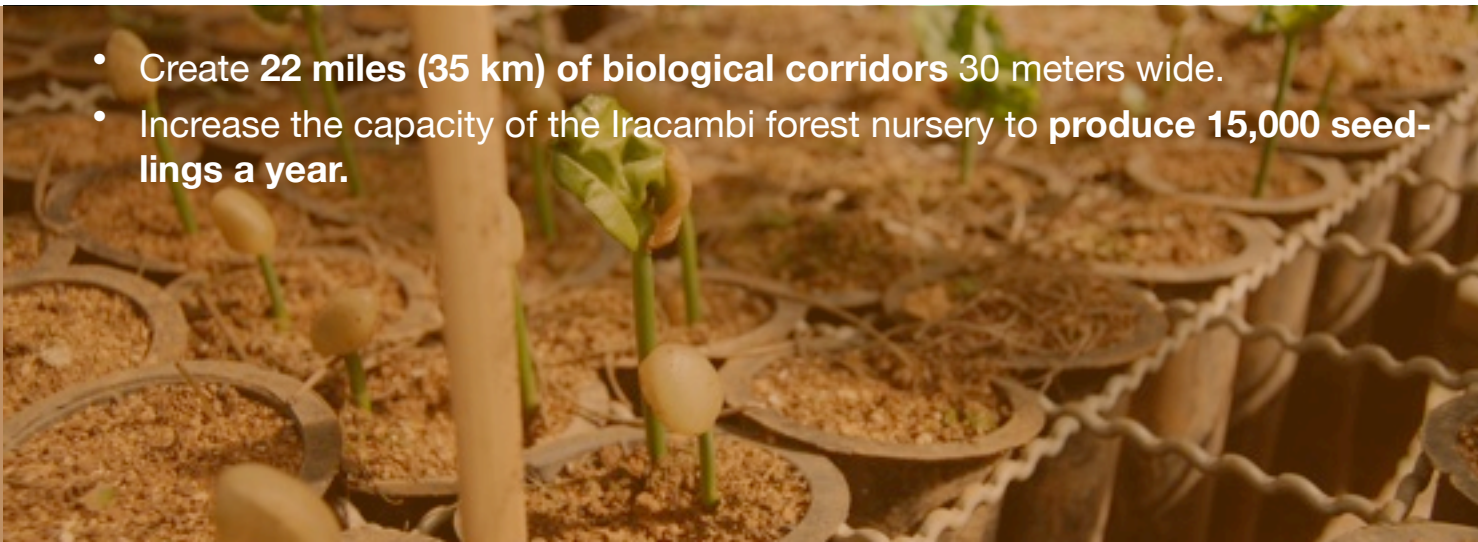
access to biological and land use studies as well as maps of forest cover as well as the ability to prove to the farmers the ecological and financial benefits of creating forest corridors

## Doing our bit

The composition and localization of each corridor will depend on the needs of the farmers, the topography and the type of biological resources in the proposed area. In order to implement this reforestation effort the following actions will be undertaken:

- Contract a project coordinator;
- Increase the capacity of the forest nursery;
- Define the alignment and limits of the corridors;
- Determine the composition of the corridors in relation to their location and purpose;
- Using available research and working with the farmers to identify appropriate areas for corridors;
- Plant, fertilize and maintain the corridors.

- Create **22 miles (35 km) of biological corridors** 30 meters wide.
- Increase the capacity of the Iracambi forest nursery to **produce 15,000 seedlings a year.**



this too is doing **our bit**





doing **our bit** so that this never happens again

# support activities

## Iracambi Geographical Information Systems

I-GIS is a major tool which supports all our projects, particularly EPA Creation, Forest Futures, and Forest Corridors. In addition to forming the basis of mapping and survey work for Iracambi's own conservation planning in the project area, and providing a way of monitoring land use changes, I-GIS has enabled us to collect and store data and generate maps which are enthusiastically used in land planning by the county. I-GIS maps

have also been extensively used to raise awareness of the mining issue, both in community meetings and public hearings. Iracambi plans to create a Community GIS in the Territory, to make this technology available to everyone.

## Natural resources inventories

For effective planning both within the Park and in the conservation areas around it, we need a clearer picture of the area's biological resources. The inventories will identify the priority conservation areas in the buffer zone, and provide data to assist in acquiring forest land and establishing forest corridors.

These inventories will be carried out by students of the Federal University of Viçosa (UFV,) through the Iracambi/UFV partnership.

## Building capacity in the Territory

Based on Iracambi's experience together with the technical assistance methodologies and training curricula designed in the EPA Planning & Management activity, information gathered in the Natural Resource Inventories, and the results of the Forest Corridors research, trainings will be held for county staff, town council members, development council members, and community members at large. Planned activities include "training for transformation", i.e. group dynamics,

leadership, negotiation skills, governance/citizenship, and related topics, and the methodology will be a combination of popular and experiential education, based largely on the work of well known Brazilian educators but seldom used in this area.



# agro-forestry systems

This project aims to continue our ongoing program of applied research in developing farm forestry practices that restore the equilibrium between agriculture and forestry, putting the forest back on the farm. These practices include using leguminous trees as a way of improving soil fertility (especially in coffee and pasture lands) and improving soil conservation methods. The project will expand Iracambi's ability to

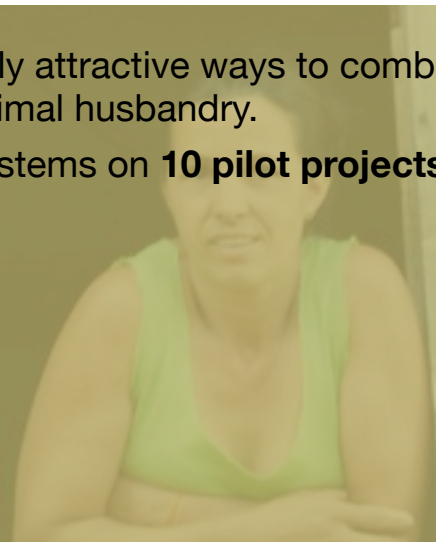
hold demonstration workshops and host visits from farmers to demonstrate technology that reverses the decline in land productivity. We plan to strengthen our partnership with the Centro de Tecnologias Alternativas, a leading authority in the field.

## Doing our bit

After obtaining sufficient funding to attract researchers and farm forestry consultants, and to acquire required materials, the following actions will be undertaken:

- Holding farmers days with to discuss and demonstrate techniques of farm forestry;
- Adapting techniques used in other areas for local use;
- Monitoring and evaluating existing demonstration plots (coffee & legume-enhanced pastures and soil and water conservation measures), and establishing new plots based on preliminary research findings regarding the appropriate composition of protein fodder banks for cattle, the use of tree legumes in pastures, and exotic/native tree species mixes;
- Determining and establishing appropriate locations for test fodder banks and other farm-forestry plots on neighboring farms.

- Develop economically correct and financially attractive ways to combine forest management with agriculture and animal husbandry.
- Demonstrate the viability of agroforestry systems on **10 pilot projects** on local smallholdings.





# medicinal plants

Sustainable harvesting and processing of native medicinal plants, which can then be used as the basis for creating and marketing a portfolio of products, has significant potential to generate alternative income for local farmers. Iracambi's ongoing medicinal plants project has identified twelve local plants that are indigenous to this area and are traditionally used for medicinal purposes, tested their medicinal properties, studied plant

communities, created propagation methods, conducted sustainable harvesting trials, held community workshops to make tinctures and developed a test range of products using medicinal plants extracts, (soaps, lotions, pomades and shampoos.) A preliminary marketing study has also been undertaken.

## Doing our bit

After obtaining sufficient funding to staff the project and upgrading laboratory facilities to comply with legal requirements, project activities include:

- Sustainably harvesting each of the 12 identified medicinal species, to be carried out by local community members and Iracambi staff and students;
- Carrying out pharmacological studies on all 12 species and using the results to inform decisions on product (tincture, extract, etc) and production methods;
- Carrying out a further market study, including packaging, labeling, and registration requirements as well as market potential estimates and target markets;
- Training participating families in harvesting, production, packaging, labeling and marketing the identified pilot products.

- Secure funds for hiring project staff and upgrading infrastructure.
- Submit the **12 identified species** of medicinal plants for further pharmacological testing to determine exact medicinal characteristics.
- Develop appropriate sustainable harvesting and production technology in **collaboration with local farmers**.
- Select **pilot products** for marketing, based on pharmacological tests, potential for local production, and market studies.
- Establish a group of at least **12 families** to work on the commercial production of native medicinal plant products.

# payment for environmental services

New public policies on water conservation and carbon sequestration are taking into account the need for land owners to be rewarded for their contribution to conservation goals: this belated recognition of the importance of financial incentives to landowners can, if properly implemented, prove decisive to farmers who face the “cut or conserve” option on their forest plots. While the public policies are currently being set

up, the practical indicators (such as the capacity of a forest fragment to capture CO<sub>2</sub>) on which such policies implicitly depend are not, and this is the window of opportunity for this activity.

## Doing our bit

This activity will establish benchmarks in forest management against which management of individual forest plots can be assessed to indicate whether or not they are contributing to goal of conservation. The following actions will be undertaken:

- Continuing on-going research on forest management/water conservation relationships (forest hydrology studies). The methodology illustrates the correlation between land use and water supply. These are linked by the need to collect continuous and accurate river flow data. For this, the Iracambi GIS system is the principal data storage and display system for surveyed river locations;
- Initiating investigations of the carbon sequestration capacity of small scale reforestation in corridors, in mining reclamation and stand-alone reforestation as potential generators of PES;
- Identifying high priority areas for inclusion in PES schemes with regard to their capacity to increase the biological resources of the Park and expedite recovery from mineral extraction;
- Initiate pilot PES program with one high priority area.

- Establish a **pilot program** to demonstrate the viability of sustainable and lucrative forest services in carbon sequestration and water credits, and develop a plan for implementation.
- Develop participative methodology which can be transferred to the neighboring watersheds through government initiatives for **environmental services**.

# ecotourism

Experiences in Brazil and other countries suggest that community ecotourism, parallel with the development of the tourist potential of the Park, could be a new and sustainable income source for local communities. It would enable communities to maintain their traditional life styles and allow them to develop and conserve rural living skills (often underutilized for lack of economic return) while demonstrating that conservation of local natural assets has direct market value. Preliminary experiences in community ecotour-

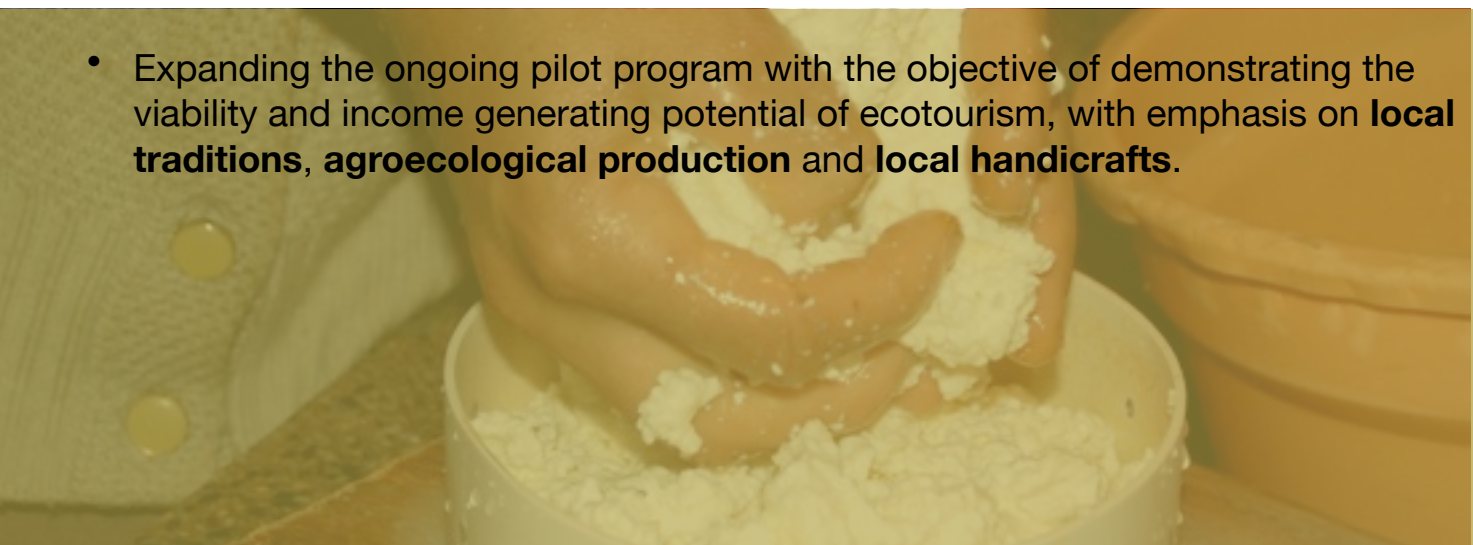
ism carried out by CTA have been promising, as has Iracambi's pilot project in the communities of Graminha and Buracada. The project will seek partnerships with SEBRAE which gives high priority to ecotourism, offering special lines of credit focusing on training and advising ecotourism providers.

## Doing our bit

The project will support the counties in the Territory in developing a geographically integrated tourism policy, acting through the Territory Council, the existing Tourist Circuit Committees and county Tourist Development Councils. The project will provide training for council members and communities and will seek a partnership with SEBRAE. The following activities will be undertaken:

- Expanding on-going research into local communities in order to choose the most appropriate pilot community and to better assist community members in evaluating their choices;
- Determining, together with ecotourism professionals and local communities, the most viable tourism activities for the community, and carrying out appropriate trainings;
- Establishing the community ecotourism pilot program, providing continuing assistance to the participants, and monitoring results.

- Expanding the ongoing pilot program with the objective of demonstrating the viability and income generating potential of ecotourism, with emphasis on **local traditions, agroecological production and local handicrafts.**



# support activities

## Community research

In order for us to work effectively with the community to make the preservation of the Atlantic Forest more attractive than its destruction, it is vital to gain a sound understanding of how rural communities operate. Specific activities, which support Component 2, Income Generating Sustainable Alternatives, will include:


- Carrying out Participatory Rural Assessments to involve, mobilize and understand local communities in order to create jointly an action plans in accordance with their needs and potential;
- Continuing research on attitudes to natural resource use, conservation, and the environment, looking at how land-use decisions are made both within the family and within the community;
- Determining the most appropriate means of supporting local farmers in implementing new income generating ideas, such as PES.

## Community training

In addition to ongoing work with school children, specific activities supporting Farm Forestry, Medicinal Plants, PES, and Community Ecotourism will include holding events and trainings such as:

- Information exchange with farmers to discuss best farm forestry practices and disseminate results through extension work amongst small farmers;
- Trainings on organizational forms such as associations and cooperatives, and workshops on sustainable propagation, harvesting and packaging of medicinal plants;
- Arranging site-visits to other communities, enterprises, and other entities/ organizations engaged in similar ventures (whether farm forestry, community ecotourism or medicinal plants production);
- Involving community members (including schools) in ongoing ecosystem health monitoring to identify positive contributors for potential PES, training forest monitors, and assisting communities in trying new practices.



A man with curly hair, wearing a black t-shirt and khaki pants, is climbing a tree in a lush green forest. He is barefoot and holding a long, thin stick or branch. The background is filled with dense foliage and trees. A semi-transparent green box with white text is overlaid on the image.

doing **our bit** whatever it takes

# we need your help

The Serra do Brigadeiro Resource Management Project has the potential to make a great difference in the daily lives of each of the 171,000 people who live in the Development Territory of the Serra do Brigadeiro. It's a project that is both ambitious and realistic, and more than ever necessary.

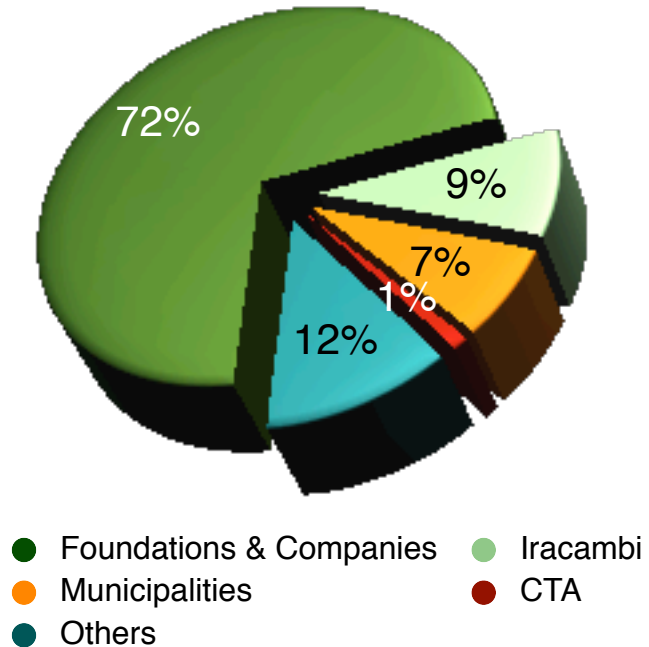
By supporting Iracambi you can be sure that your contribution to the development of the Territory makes a real difference. Our organizational model is flexible, maintaining low administrative costs and taking advantage of the expertise of the more than 100 volunteers who work with us every year. Without impressive offices and expensive travel, Iracambi does its part, day by day, in the countryside. We know that this is where our efforts will have the greatest effect.

We can therefore assure you that with regards to the Serra do Brigadeiro Development Project 78% of your contribution will go towards concrete actions for the environment and for the people of the area. The remaining 22% will be used for important investments and acquiring equipment both of which are vital to the success of the project.

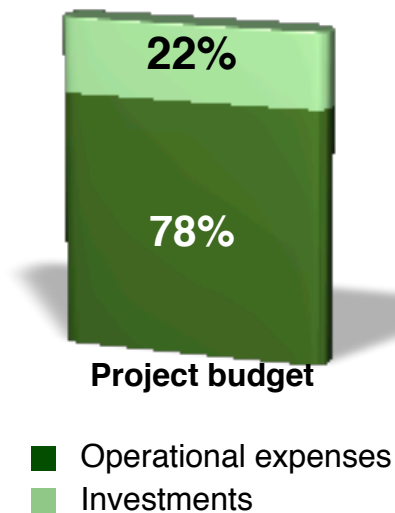
*For us development isn't measured in dollars but in the number of trees planted and the area of forest preserved.*

**Marcelo Mendes Amaral**  
**Director of the Community Training project, Iracambi**

## Project financing



## Organizational efficiency



and you - will you help us do **our bit?**



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