A Case Study of a Project Entitled Community Skills for a Complex Situation: Managing Mining in the Brazilian Atlantic Forest

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A Case Study of a Project Entitled *Community Skills for a Complex Situation: Managing Mining in the Brazilian Atlantic Forest*

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PIM 66

A Capstone Paper submitted in partial fulfillment of the requirements for a Master of Arts in Sustainable Development at the SIT Graduate Institute in Brattleboro, Vermont, USA.

July 11th, 2011

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Abstract

This paper is a case study of a project entitled *Community Skills for a Complex Situation: Managing Mining in the Brazilian Atlantic Forest*, which is located in the Serra do Brigadeiro Territory of Minas Gerais, Brazil – an area rich in biodiversity that is thought to contain the highly endangered woolly spider monkey (*Brachyteles hypoxanthus*).

Iracambi, a local non-governmental organization with an international staff, designed and implemented the project. Beginning in 2007, the project is scheduled for completion in the second half of 2011, and is funded by the Inter-American Foundation (IAF). Utilizing mainstream sustainable development, the project seeks to prepare and empower community members to deal with the imminent mining activities which will result from an estimated one billion USD worth of bauxite in the region.

During the course of the project Iracambi has been working to facilitate dialogue between farmers, conservationists, miners and government decision-makers; redefine power relationships through capacity building and education; and achieve the best outcome for the local communities and the land.

This paper examines to what extent the project promotes or hinders sustainable development in the communities that it serves. Furthermore, it looks at what lessons could be learned from the project, and how this new knowledge could be used in practicing development elsewhere in the future.
Chapter 1: Introduction

“All relations between environment and people are political, just as all development is ideological” (Adams, 2001, p. 170). This quote, from the second edition of *Green Development: Environment and sustainability in the Third World*, encapsulates what I wanted to explore during my practicum and capstone research. I wanted to go to a rural environment where a mainstream sustainable development project with an environmental focus was being practiced so that I could study the politics and ideology involved in projects of that type, and then ascertain to what extent the project promoted or hindered sustainable development in the communities that it served. Furthermore, I wanted to understand what lessons could be learned from the experience, and how this new knowledge could possibly be used in practicing development elsewhere in the future. There are many locations in the global south that fit this description, but I ended up doing my practicum in Brazil, which was especially attractive to me because I had lived there for three years during elementary school.

The site of my practicum, located in the rugged and mountainous Serra do Brigadeiro Territory, was in the heart of the Brazilian Atlantic Forest, one of the richest and most biodiverse regions on the planet, but has been depleted to 5-7% of its original size (Dean, 1995) due to deforestation caused by farming, ranching, and grazing. If deforestation and environmental degradation due to agriculture were not enough, the Serra do Brigadeiro is thought to hold over 1 billion USD worth of bauxite: a valuable mineral used to make aluminum and a variety of chemicals used in everyday products. To further complicate matters, of the many species that occupy what remains of the once great Atlantic Forest, the Serra do Brigadeiro is home to the highly endangered northern muriqui monkey (Brachyteles hypoxanthus), known as the woolly spider monkey.

In short, the Serra do Brigadeiro Territory has already lost a lot of forest due to agriculture, and could potentially lose the rest when the area is mined for its bauxite. The potential for an ecological
disaster is very real, but this says nothing of the people that live there.

The communities within the Serra do Brigadeiro are caught in the middle of this complex situation. Hardy agriculturalists of European decent, the people of the Serra Brigadeiro are leaving their land. An entire way of life is on the verge of ending as youth depart for urban centers, and farms that can no longer sustain families are sold for bauxite mining. Added together, the situation in the Serra do Brigadeiro is difficult and fragile, and a likely place to practice sustainable development.

My practicum was with the Iracambi Rainforest Research and Conservation Center (Iracambi), which is a small non-governmental organization (NGO) on a 500-hectare farm (Fazenda Iracambi) in the county of Rosário da Limeira, which is located in the Serra do Brigadeiro Territory in southwestern Minas Gerais, Brazil. It was founded in 1999 by the owners of Fazenda Iracambi, Robin and Binka Le Breton. Iracambi’s mission is “to work with the community to make conservation of the forest more attractive that its destruction.”

When my practicum began Iracambi was working towards its mission through four separate programs: environmental education, natural resource management, reforestation, and income generating alternatives (IGAs). In addition, Iracambi had several support programs, including geographic information systems (GIS), a seedling nursery, the volunteer program, and an extensive research program. On top of its programmatic work, Iracambi was actively involved in organizing the community against bauxite mining encroachment, and played a vital role in the formation of the Rosário da Limeira municipality in 1995.

When I arrived, Iracambi was staffed by the Board President, Binka Le Breton; the Research Center Director, Robin Le Breton; a number of project coordinators from around Brazil and overseas; and support staff from the local community. In addition, the organization had a constant supply of international and Brazilian volunteers and researchers that worked in all of the programmatic and
research areas. At the time of my practicum, Iracambi had hosted over 500 volunteers and researchers from approximately 30 countries on-site. Most of these visitors stayed for a full month, but a good number ended up staying longer, or returned later to volunteer or continue their research.

My position at Iracambi was Program Coordinator. Practically speaking, I represented the link between the Research Center Director, the Board President, and the volunteers and staff at Iracambi. I worked with the coordinators and managers of each program to ensure that the NGO was running well and was in line with Iracambi’s mission.

When I began my practicum, I was not sure what my capstone research topic would be, as Iracambi was involved in so many projects, so I concentrated on getting to work with the hope that my topic would become apparent during the process. My original Terms of Reference was broad, and included things such as marketing, fundraising, and community engagement, but my focus changed to strategic management and capacity building once it became apparent that this was necessary from the results of a needs assessment that I conducted with Iracambi staff and volunteers soon after my arrival.

While I considered my capstone topic, I worked on the creation of a three-year strategic plan for Iracambi's various programs, which included an improved monitoring and evaluation system and a new organigram for the organization. I also worked to build the capacity of the different coordinators in order to improve Iracambi’s efficiency and effectiveness. Most of this was done as part of the strategic planning process, where I used tools such as SWOT analysis to examine each of the projects.

The strategic plan was never completed or adopted because several months into my practicum Iracambi shifted gears when it received a large grant from the Inter-American Foundation (IAF) to fund an ambitious, but important project. The project was designed to be a three-year, $300,000 community capacity building project entitled *Community Skills for a Complex Situation: Managing Mining in the Brazilian Atlantic Forest* (also known as the Community Training Project for the Serra do Brigadeiro,
and referred to in this paper as the Community Training Project).

Concerned with the lack of involvement of the local communities of the Serra do Brigadeiro in decision-making regarding bauxite mining in the area, the purpose of the project was to identify and build the capacity of community leaders in over thirty communities. With bauxite estimated at more than 1 billion USD, the leadership at Iracambi felt that some level of mining was inevitable, but that if it was not done correctly it would have significant social and ecological consequences.

During the first few months of my practicum I had known that a project proposal had been submitted to the IAF, and had found it to be a very interesting possibility. Once it was funded I knew I had my capstone topic because the project proposal appeared to be a great example of sustainable development. This paper is a case study of that project.

To collect data for this case study I kept a daily journal of my work at Iracambi, which included a substantial amount of time preparing for the implementation of the Community Training Project; I researched background information on the project and held in-depth conversations with Marcelo Mendes, the Director of the project, as well as Binka and Robin Le Breton, the founders and leaders of Iracambi; and used the results of the needs assessment that I conducted upon my arrival, and the unfinished 3-year strategic plan to better understand the organization and the land and communities that it is a part of.

Also, I worked directly on the project for its first several months. Much of this period was during the planning phase, so I participated in many meetings with community members and Iracambi staff and volunteers, as well as a planning meeting that including representatives from the IAF’s headquarters in the suburbs Washington, DC.

After I completed my practicum in January of 2008, I followed the project's progress through communications with Iracambi's leadership, and I reviewed quarterly and annual project reports. For
my literature review I focused on works that were used in the Theory and Practice of Sustainable Development class that I took during my on-campus phase. I drew most heavily from Adam's *Green Development*, but also relied on *the Post-Development Reader, the Development Dictionary*, and Peet's *Theories of Development*.

In 2011 The Community Skills Project, and the IAF funding that came with it, was extended for an extra six months and is still going at the time of this writing. Over the three-plus year period of the project, Iracambi has worked to educate the communities on the mining situation, worked to increase community leader capacity in terms of planning concepts, facilitated dialogue with the goal of community members being empowered to ask questions of the mining community and give their opinions regarding their land, and advocated for democratic practices and accountability from the mining companies. In addition, Iracambi has worked to expand the Environmental Protection Areas (APAs) in the Serra do Brigadeiro, worked towards income generating alternatives such as Payment for Environmental Services (PES) that will help protect the forest, and continued their forest and agricultural research.

Interest in this project on the part of community members has been good since the beginning. For example, over 1,000 people attended a public hearing on mining in Rosário da Limeira in August of 2005. Because of this, it appears that the communities view these capacities as beneficial.

I expect that Iracambi will continue to build the capacity of the communities in the Serra do Brigadeiro Territory once the project officially closes in the Northern fall of 2011. After all, there is still over a billion USD worth of bauxite in the Serra do Brigadeiro Territory, and the potential for many future complex situations to arise.

As is stated in the project proposal “Iracambi’s role as facilitator will allow the work of the larger community to continue once the IAF funding ends. Capacity-building activities are specifically
designed to ensure that the community will have the necessary tools to continue after the IAF’s involvement ends,” and “the tools and methods of self-governance encouraged by Iracambi now will be used by others in the future to respond to future complex community issues” (Iracambi Staff, 2007, p. 19).
Chapter 2: Context

According to the project proposal over 6,700 hectares of bauxite have been identified, and the expected yield is approximately 70 million tons. The mining concessions cover 75,000 hectares of farm and forest, and could affect 5,100 rural families (Iracambi Staff, 2007, p.6).

The goal of the project is for Iracambi to help “empower community members to choose the course of their own development by investigating the communities’ concerns regarding mining, liaising with key players in the public sector and partner NGOs, and facilitating educational and capacity-building workshops” (Iracambi Staff, 2007, p. 5). This would be achieved by work in three areas: community empowerment, natural resource management, and rural enterprise development (Iracambi Staff, 2011).

The proposal submitted to the IAF for the Community Skills Project provides a good summary of the project's original intentions:

Responding to a proposal for extracting $1.3 billion worth of bauxite from a highly sensitive Atlantic Forest conservation area, Iracambi will facilitate dialogue between farmers, conservationists, miners and government decision-makers, redefining power relationships through capacity building and education, and achieving the best outcome for the people and the land. (Iracambi Staff, 2007)

The Community Skills Project would encompass communities located in the Serra do Brigadeiro Territory, which is an economic development territory in the state of Minas Gerais set up to attract government funding for activities in biodiversity, conservation, and sustainable development.

The Serra do Brigadeiro has a total of nine counties, but the communities expected to
participate in the project are located in just five of those counties: Rosário da Limeira, Muriaé, Miradouro, Fervedouro and Divino (see map in Appendix C). These counties were selected because they are located in the buffer zone of the 14,000 ha Serra do Brigadeiro State Park where mining concessions have already been granted (see map in Appendix B). The Serra do Brigadeiro state park is very rich in biodiversity, and is thought to contain the world's largest population of muriqui monkeys, one of the most endangered monkey species in the world.

As I previously stated, the Community Skills Project worked in three different areas: community empowerment, natural resource management and planning, and rural enterprise development. Regarding community empowerment, Iracambi planned to do the following over the course of the project (from 2007 annual report):

- Set up mechanisms that enable all members of the community, regardless of their status in society, to ask questions of the mining company and express opinions regarding their land;
- Support an instructor to facilitate capacity-building workshops for decision-makers in the public sector;
- Facilitate meetings in all of the affected communities to discuss mining;
- Host a leadership capacity-building workshop in each of the five counties affected;
- Facilitate a course in planning concepts in each of the five counties;
- Retain a legal advisor to work on the rights-based claims of rural communities;
- and advocate for democratic practices and accountability from the mining company.

Natural resource management and planning was an important part of the project because to ensure the continued existence of the farming communities it was necessary for the rich biodiversity of the Atlantic Forest to not only be maintained, but to be improved. Regarding natural resource planning
and management in the area, Iracambi planned to do the following over the course of the project (from 2007 annual report):

- Work with partners to ensure that areas of critical importance are conserved, and that management committees and management plans are in place for environmental protection areas (APAs) and management plans in the counties affected;
- Facilitate community workshop on land use planning in all the five counties;
- Facilitate courses in natural resource management for each of the APA management councils;
- Work with the mining strategy focus group to inform communities, facilitate dialogue with the mining company, monitor mining activities, and jointly plan and implement best practice rehabilitation in mined areas;
- Facilitate water and soil quality monitoring, the responsibility for which is placed at the local level by state environmental law;
- Strengthen Iracambi’s existing pilot watershed program to train local students to provide baseline measurements for future post-mining land reconstitution;
- Collaborate with local universities on natural resource monitoring.

Although families receive some compensation from mining activities that occur on their land, the amount of money is small and not enough to establish a sustainable income. Iracambi believes it is necessary to create sustainable income generating alternatives to mining which would both help the land and the farmers, and would create a foundation for long-term economic development. To meet the objectives of the rural enterprise development portion of the project, Iracambi planned to do the following (from 2007 annual report):

- Contract researchers to investigate the option of Payment for Environmental Services (PES) as
an alternative form of income for farmers. Options include credits for water conservation and carbon sequestration;

- Support ongoing research into development of income alternatives including the creation of rural enterprise, the creating and marketing of native medicinal plant products (sustainably grown and harvested), ecotourism, and agro-ecological farming techniques to raise farm incomes while protecting soil and water.

The historical background of the case spans several years before the planning, funding, and implementation of the Community Skills Project. In November of 2003, Iracambi realized that their farm, Fazenda Iracambi, and the communities that surrounded it in the Serra do Brigadeiro, were sitting on top of more than a billion USD worth of bauxite. Naturally, Iracambi was concerned that mining interests would trump those of the local population, most of whom were involved in agriculture, as well as the sustainability of the forest and its rich ecosystem.

As it happened, there were already substantial mining claims in the area. According to the project proposal there were claims on 75,000 hectares of farm and forest in southeastern Minas Gerais, Brazil, which is where Iracambi and the Serra Brigadeiro is located (Iracambi Staff, 2007, p. 5).

Iracambi’s reaction was to conduct a fact-finding mission regarding bauxite mining and the claims in the area. Iracambi organized two local hearings which resulted in the state licensing committee halting further mining activity until a more democratic process could be put in place. According to the project proposal, “In August 2005, all mining activities were halted by the licensing agency until further discussions could be held, due largely to Iracambi’s efforts in advocacy. However, this window of opportunity will not remain open forever” (Iracambi Staff, 2007, p. 18).

Iracambi began looking at ways to involve all stakeholders in the process of finding a solution
that would benefit everyone. For this to happen, Iracambi felt it needed to empower community members to take part in the process, and that was the beginning of the Community Training Project.

Iracambi’s leaders, Robin and Binka, also realized the importance of involving the mining industry in the project, because it was generally accepted that some level of mining would eventually take place in or near the Serra do Brigadeiro Territory simply because of the huge value of the bauxite in the area.

Because of Iracambi’s involvement in the mining issue, in the third quarter of 2007 they were invited to attend a seminar on bauxite mining organized by the Brazilian Mining Institute. The purpose of the seminar was to discuss mining in the forested areas of Minas Gerais, and it was attended by government officials at the local, state, and federal level, as well as representatives from the major aluminum companies. Iracambi was encouraged by the fact that this group of stakeholders would meet to discuss potential impacts of mining in the forest. In the past it would have been commonplace for companies to receive permits and begin mining without public participation, so this change in attitude on the part of these stakeholders was encouraging (from 2007 third quarter report).

Also in 2007 Iracambi participated in a family agriculture workshop held at the university of Viçosa. The workshop was put on by the Center for Alternative technologies, and looked at impacts on agriculture such as bauxite mining and the rising demand for planting eucalyptus in the area. It is widely believed that eucalyptus is very hostile to other plant species and nothing much will grow underneath it. This creates a monoculture of eucalyptus and disrupts the ecology of an area and would disrupt “forest corridors.” Iracambi has been studying this issue to see if the belief is true, and planted a forest corridor with eucalyptus and native species to test the theory. If it is successful then farmers could produce income from a forest corridor because eucalyptus is a commodity. The thinking was that this could work well with the Community Skills Project as an income-generating alternative for
farmers, while upholding Iracambi's mission “to work with the community to make conservation of the forest more attractive that its destruction.”

On August 4-5, 2007, the Sociedade Amigos de Iracambi met at Iracambi for their annual general meeting. I was present at this two day meeting, and it was my first opportunity to meet the board that was supporting Iracambi's work within Brazil. During the meeting bauxite mining was discussed at length and it was agreed that Iracambi is neither against or in favor of mining, but that their “objective is a fully participatory and transparent process whereby local communities can engage with government and mining companies in decisions about which areas will be mined and which conservation areas will be protected” (from 2007 third quarter report).

The historical background to the case ended on October 27, 2007, when four representatives from the Inter-American Foundation (IAF), several Iracambi staff members and leaders, and three community members met at Iracambi to officially begin the project. I was a participant in this meeting, which started with a slide presentation on the project by Marcelo Mendes, the project manager. The meeting went well with the IAF representatives providing positive feedback to Marcelo's presentation. We then learned from the IAF that the Community Skills Project, at least on paper, had officially begun on September 7, 2007.

Funded by the IAF, the total budget for the Community Capacity Project was $300,000 spread out over a 3 year period (which was eventually extended). Iracambi's mission and how it relates to the IAF and its mandates for the project are very important to the context of the case. As I previously mentioned, Iracambi's stated mission is “to work with the community to make the preservation of the rainforest more attractive than its destruction,” but this was broadened for the purposes of the Community Training Project proposal:
Iracambi’s mission is ‘to work with our community to make the conservation of the Atlantic Forest more attractive than its destruction,’ integrating conservation and sustainable development in an isolated rural area of Brazil of small family farms and rich biodiversity. Iracambi works in a participatory manner with local communities to generate awareness of land degradation, identify problems, and find and implement solutions to challenges of land management. Our goals are to protect and restore forests, increase soil fertility on cleared lands, generate conservation-based enterprises, improve rural livelihoods and advocate for sound policies in conservation and rural development. (Iracambi Staff, 2007)

In my experience working with Iracambi it was evident that they sought to work in a participatory manner in all of their projects and programs. Participation is a cornerstone of mainstream sustainable development, and will be discussed more in the following chapters. The IAF’s goals for the project were also participatory in nature:

Iracambi will facilitate dialogue among farmers, conservationists, miners and government decision-makers affected by a proposal for extracting bauxite from a highly sensitive conservation area in Minas Gerais. Its goal is to achieve the best outcome for residents of the affected communities by redefining power relationships through capacity-building and education. (IAF Staff, 2011)

The IAF is an independent foreign assistance agency of the United States Government which is “working to promote equitable, responsive, and participatory self-help development in Latin America and the Caribbean (IAF Staff, 2011). According to the IAF website:
The guiding principles of the Inter-American Foundation are to support people, organizations, and processes; channel funds directly to the non-governmental sector; promote entrepreneurship, innovation, and self-reliance; strengthen democratic principles; empower poor people to solve their own problems; and treat partners with respect and dignity. (IAF Staff, 2011)

These guiding principles speak to local needs, community participation, and empowerment, which are all important aspects of the Community Skills Project, but it misses the larger picture of how mainstream development institutions like the IAF are connected to globalization. The IAF, which is an agency of the US government, gets its funding from a variety of places, including the US Congress and the Inter-American Development Bank (IDB). The US Congress naturally has US interests at heart, but in many ways the IDB does as well as it was created to bring development to Latin America and the Caribbean by providing financing and expertise. This is discussed more in chapters 4 and 5 as I explore mainstream sustainable development (which the IAF and the IDB are a part of), and alternatives to this type of development (which Iracambi could potentially become).

I would like to close this chapter by briefly describing how the Community Skills Project represents the communities of the Serra do Brigadeiro, and the implications of that representation for the people represented. In large part, the communities are represented well because for a number of years they had been feeling the direct effects of mining activity without public input or involvement, and therefore were eager to participate in initial meetings and advocacy efforts that Iracambi initiated in the years prior to the Community Skills Project. For example, over 1,000 people attended a public hearing on mining in Rosário da Limeira in August of 2005. That is an impressive amount of people
considering that at the time the combined urban and rural population of the county was estimated to be less than 4,000 (Iracambi Staff, 2007).

Also, Iracambi's location in the community, and long history of community involvement and work has helped it to integrate into the fabric of the area, which arguably gives Iracambi a good sense of how to go about its work on behalf of its constituents. In many instances of development, community members have projects imposed on them by “experts” from the outside, but Iracambi’s history and location makes this less of an issue. Having said that, there is always a danger that during participatory activities facilitators will impose their opinions, views, and priorities on local communities, and I discuss this in chapter 3.

The implications of this representation are that, to a certain extent, Iracambi will have a large say in how the communities of the Serra do Brigadeiro respond to the challenge of bauxite mining. Because Iracambi is a part of these communities makes this preferable to a project run solely by outsiders.
Chapter 3: Theoretical Approach Discussion and Critique

According to my understanding of Chambers (1994), the theoretical approach of the Community Skills Project primarily falls within the umbrella of Participatory Development, with methodologies such as Participatory Rural Appraisal (PRA) and Participatory Action Research (PAR) heavily in use. However, the participation in the project happens within a backdrop of mainstream sustainable development and environmental populism. As stated by G.W. Adams in *Green Development*, “mainstream sustainable development is predicated on a capitalist economy, is technocentrist in approach and is built on environmental modernization and environmental economics in its methodologies. It also involves a very particular political agenda, in environmental populism” (2001, 114).

The environmental focus of the project is important because it adds a political dynamic to the ideology of participatory development. To repeat from Adams, “all relations between environment and people are political, just as all development is ideological” (Adams, 2001, p. 170). Participation is a necessary ingredient of environmental populism because it “emphasizes the capacity for citizens to take hold of their circumstances and change them for the better” (Adams, 2001, p. 114). Essentially, the Community Skills Project does this by seeking to empower people so that they have a voice in the management of the natural resources in the Serra do Brigadeiro Territory (specifically Bauxite, but other resources as well), and to engage in sustainable development in specific ways in order to improve their quality of life.

One potential challenge that can arise when engaging in mainstream sustainable development that employs participation and environmental populism is the relative rigidity of the governmental structures that are in place. Sustainable development advocates for non-hierarchical systems of organization (Adams, 2001, p. 115), but if there is a rigid governmental hierarchy then it makes it
difficult for participatory development to have a real impact when the management of natural resources is at stake. For the project to work, governmental structures need to be flexible. Adams cites Galtung (1984) by stating, “Ecodevelopment requires beta structures, but set within a matrix of a benign, flexible, communicating and restraining alpha system” (2001, p. 116). Galtung differentiates between alpha social systems which are hierarchical, and beta social systems which are horizontal. Clearly, the Community Skills Project was working to create a beta social system within the Serra do Brigadeiro Territory which would necessitate a benign and supportive alpha social system (the government at all levels). The county governments within the the Serra do Brigadeiro Territory, as well as the Minas Gerais state government were supportive of the Community Skills Projects and could be considered actors in a benign and supportive alpha system.

Because the environment and development sectors are essentially separate fields (Adams, 2001, pp. 15-16), I think it is important to address participation and sustainable development separately, and I will do so in the following paragraphs. Participation is part of the development discourse, but does not require an environmental component. However, according to Adams, sustainable development necessitates an environmental piece. In *Green Development*, Adams discusses how sustainable development is connected to concerns about the environmental impacts of development (2001, p. 12).

Even though environment and development are essentially separate fields, each with its own literature, training, experts, etc., Iracambi does a good job of bringing the sectors together through its on-site research center. Iracambi attracts scientists and students doing scientific research, as well as practitioners of development and volunteers. Bringing these two fields together to work towards the same mission gives Iracambi an interdisciplinary foundation that it can draw from when engaging in initiatives like the Community Skills Project. This is a strength that Iracambi has.

According to Rahnema, the terms “participation” and “participatory” went into use within the
world of development in the early 1950s (1992, p. 117). Development workers began blaming the failure of development on the lack of participation of communities that were the subjects of development.

Following the recommendations of many of their own experts, a number of major international aid organizations agreed that development had often floundered because people were left out. It was found that, whenever people were locally involved, and actively participating, in the projects, much more was achieved with much less, even in sheer financial terms. (Rahnema, 1992, p. 117)

Throughout Iracambi’s history it has consistently sought to involve the local community in its initiatives. One advantage that Iracambi has over many NGOs is that the leaders of the organization, the Le Bretons, live permanently in the community and staff are housed at the research center which is on-site. There is no need to travel out to rural areas because they are already there. This is a huge advantage because it allows for a greater understanding of the communities on the part of the development workers, has lead to community members accepting Iracambi as a part of the community in its own right, and allows for flexibility throughout any project cycle because the development workers do not need to worry about the logistics of traveling to and from a work site. Of course, during the implementation of the Community Skills Project, travel was a planning consideration due to the challenging terrain in the mountainous Serra do Brigadeiro Territory and the overall size of the territory.

Participatory Rural Appraisal (PRA) and Participatory Action Research (PAR) grew out of the 1970s and 80s when development practitioners and academics began seriously critiquing development,
and theories such as poststructuralism and postmodernism began to arise as critiques to modernism and development. PAR was designed to be an intellectual and practical research methodology that came from communities internally, and “has been associated with the adult education movement since at least 1975” (Chambers, 1994, p. 954), as opposed to external ideas and solutions imposed on communities.

“PAR was theorized as a total process of adult education, scientific research, and political action in which critical theory, situation analysis, and practice where all seen as sources of knowledge (Peet, 1999, p. 139).” According to Peet, PAR was inspired by the Spanish existential philosopher José Ortega y Gasset, who argued that through their experiences people could intuitively understand reality (Peet, 1999, p. 140). Peet takes this further by discussing how Marx and Engel believed that philosophers should not only explain the world, but work to change it (Peet, 1999, p. 140). To me PAR is a valid approach because in my experience with development and in life truth is often relative and localized, and not universal and absolute, and everyone should be able to participate in research. I also identify with the sentiment that we should all work to change the world and not simply explain it.

PAR fits well with Iracambi and it's research center, as well as with the Community Skills Project which is ultimately focused on empowering local communities to advocate for their rights amidst the encroachment of the mining industry. Iracambi’s realization that it was not only about capacity building within the community, but also connecting those communities to leaders at the county and territory level helped to create a path towards a more participatory form of democracy in the area.

A potential concern with the design of the project is the drawbacks that community participation has as it applies to development. Participation can be manipulated, with community members not participating freely and spontaneously, but instead driven by external organizations that do not necessarily have the best interests of the community in mind. According to Rahnema,
participation is generally associated with positive and desirable goals, and therefore achieves a moral aspect which assumes the project in question is by nature good (1992, p. 116).

“For, more often than not, people are asked or dragged into partaking in operations of no interest to them, in the very name of participation. Neither the pyramids, nor the many contemporary mass demonstrations in favor of repressive regimes, have represented free acts of participation (Rahnema, 1992, p. 116).”

Also, In participatory development it is often difficult for change agents that are involved in a project to simply act as catalysts that move a community to action, but instead end up promoting a specific project and its goals, which often originated from the outside. In the case of the Community Skills Project, it was likely difficult for the project director, Marcelo Mendes, to keep the project as grass-roots as possible and refrain from driving it himself. According to Rahnema, change-agents would often exceed their role as catalysts and end up acting as promoters of a project with their own ideas of the challenges and solutions present in a community (1992, p. 123-124). This is complicated even more by the many international volunteers, as well as urban Brazilians, that travel to Iracambi to volunteer. Each of these volunteers come with their own biases and world-views which then are injected into any participatory process, potentially drowning out the views of local community members.

In my opinion there are also limits to what participatory development can achieve. Looking at the history of development it is clear that participation has lead to improved self-advocacy on the part of communities, and during my experience as a Peace Corps Volunteer in rural Zambia I witnessed how participation could help create community leaders that otherwise might not have come forth. However, according to Rahnema, there is little evidence that new kinds of knowledge emerged from the participatory process (1992, p. 122). Participation itself lies within the overall system of development,
which has its own structure, biases, and logic, and is ultimately a product of Western thinking and the idea of progress. Development is supposed to lead towards progress, and participatory development is in a way a vehicle meant to legitimize that progress by including, at least superficially, affected communities in that process.

Things also erode when communities develop ideas or plans that fall outside the confines of the original project. According to Rahnema:

... some participatory activists have been seen to outdo the paternalistic arrogance of the conventional expert/evangelizer. When the common sense of grassroots people prompts them eventually to disagree with a solution offered them by vanguard leaders, their lack of cooperation or outright resistance is attributed to their primary consciousness, if not to counter-revolutionary influences. (1992, 125-126).

Another potential issue with the project is that it assumes that there is a certain set of skills and knowledge that the community needs in order to advocate for itself in the face of eventual bauxite mining, and that the community does not already possess these (or other equally valuable) skills and knowledge. It also assumes that the leaders and volunteers at Iracambi do possess these skills and knowledge and that they can transfer them to local community members.

Realistically speaking, Iracambi does have a lot of experience with advocacy, resource management, and Payment for Environmental Services (PES), so there is little doubt that the transfer of the fruits of this experience would be beneficial to the community. On the other hand, there's a danger that the Iracambi staff and volunteers don't have the knowledge and skills necessary for the community, but they're operating under the assumption that they do. This happens often with development workers.
As Leonard Frank (pseudonym) sarcastically states in *The Development Game*, “none of us knows Pakistan but we all know what is good for it” (Frank, 1997, p. 266). To be fair, Iracambi has been on-site in the local community for far longer than the duration of the fictional project in *The Development Game*.

Teodor Shanin discusses progress, which is the basis for development, and points out that progressivists, such as development workers, have difficulty including anything in their work that falls outside of the model of development or progress. “The limitations of the progressivist became increasingly apparent. This severely limited or delayed knowledge of extensive evidence which did not fit the particular model of progress...” (1997, p. 70). Working within a model such as PAR, or using participation within the context of development, it is difficult to include contributions that fall outside of what the model allows.

The model becomes particular important when planning is involved and there are defined indicators which are thought to lead to desired outcomes, such as in the case of the Community Skills Project. According to Escobar:

Generally speaking, the concept of planning embodies the belief that social change can be engineered or directed, produced at will. Thus the idea that poor countries could move more or less smoothly along the path of progress through planning has always been held as an indubitable truth, an axiomatic belief in need of no demonstration, by development experts of most persuasions. (1992, p. 132)

The participation that formed the basis of the Community Skills Project happened within a backdrop of environmentalism and sustainable development. Sustainable development is a phrase that
Words about sustainable development, whether in academic journals or soundbites of politicians, very often prove to have no coherent theoretical core. The literature is strewn with the terms 'sustainability' and 'sustainable development', and before them with related terms like 'ecodevelopment', but too seldom are any of them given a clear and consistent meaning. (Adams, 2001, p. 5)

Wide ranging critiques of development led to a discourse of a more environmentally friendly development, or ecodevelopment, which eventually became sustainable development. In sustainable development, the critiques of development “have been wedded to rather different concerns about the environmental impacts of development, both the costs in terms of lost ecosystems and species, and (laterally) the impacts of development action on natural resources for human use” (Adams, 2001, p. 12). Initially, the focus was neo-Malthusian, with the goal of curbing population growth as the answer to decreasing environmental degradation (Adams, 2001, pp. 13-14), but this changed over time as the concept evolved.

The sustainable development discourse reached the international stage at the United Nations Conference on the Human Environment held in Stockholm in 1972, and then became mainstream at the United Nations Conference on Environment and Development held in Rio de Janeiro in 1992. According to Adams, the documents that resulted from these conferences present a vision of sustainable development as being “strongly influenced by science, by ideas about wildlife conservation, by concerns about multilateral global economic relations, and by an emphasis on rational management of resources to maximize human welfare” (2001, p. 54). Interestingly, the Rio conference was held a
mere five hours drive from Iracambi, which at the time was not yet an NGO, but was a farm seeking to coexist sustainably with the forest around it.

Throughout its history, the global environmental movement has been driven by the northern hemisphere, and is ethnocentric in its international comparisons because they are based on European and North American experiences. Environmental organizations in the global south began to appear in the 1970s, but the global north still holds the power and influence (Adams, 2001, p. 23). Iracambi, though founded by people that were northerners, at least originally, can be included as an environmental NGO of the global south. Iracambi’s dual focus on environmental research and human powered development puts it squarely in the center of the practice of mainstream sustainable development.

At the Rio Conference in 1992, the G77 countries (128 less-developed countries setup as a counter-balance to the G7 countries) pointed out that northern countries had already clear-cut their own forests during industrialization, and still use unsustainable forestry practices. Given this, it is hypocritical to demand that southern countries do things any differently. Also, because tropical forest benefit the entire globe, northerners should help off-set the cost of keeping the forests uncut (Adams, 2001, pp. 89-90). In terms of off-setting costs, Iracambi’s work with carbon sequestration and the Payment for Environmental Services (PES) component of the Community Skills Project both fit nicely within the G77s discussion of compensation for forest preservation.

At present, mainstream sustainable development is broadly accepted as the dominant paradigm in the world of international development. Adams provides a good summary of why this is the case:

Mainstream sustainable development is bureaucratically and politically acceptable, because it seeks to reprogram the juggernaut of development through reformist thinking, involving better
measurement of social and environmental impacts, better assessment of costs and benefits, better 'clean' technologies and efficient planning procedures. (2001, p. 19)

It is important to note that mainstream sustainable development does not challenge the dominant capitalistic economic model, but instead focuses on improved priorities and approaches (Adams, 2001, p.103). “Mainstream sustainable development is firmly anchored within the existing economic paradigms of the industrialized North” (Adams, 2001, p. 108). In this sense, Iracambi’s work and the Community Skills Project, fall well within mainstream development. The project, and Iracambi in its other work, does not seek to challenge the dominant economic model, but instead seeks to make the model work for both the people and the environment in the Serra do Brigadeiro Territory.

This is highlighted by the Payment for Environmental Services (PES) component of the Community Skills Project. PES commodifies nature by breaking it down into goods and services. According to Adams, “market environmentalism argues that the further market exchange penetrates into the environment, the greater the efficiency of environmental management. Policy proposals therefore pursue the commodification of nature, and the setting of prices for environmental 'goods' and 'services’” (2001, p. 105).

Of course, for programs like carbon sequestration or PES to work, governments, organizations, companies, and societies and people as a whole need to shift their values towards an appreciation for a greener, more ecologically friendly approach to development. It is evident that this is happening and has been happening for several decades (albeit slowly). According to Adams, 'green capitalism' and 'green consumerism' became important in Europe as early as the 1980s (2001, p. 112).

Despite the limitations of participation and of outsider involvement in a project, and mainstream sustainable development in general, the Community Skills Project ultimately seeks to assist the
community in responding to a crisis that if left unabated would almost certainly impact the community in myriad negative ways. The loss of farmland and forest; the endangerment of many species in the area, including the very rare muriqui monkey; the displacement of families; the lack of employment for community members; and the potential for more disasters such as the collapse of the two dams are all very real possibilities if bauxite mining is to take hold in an unmitigated way. Iracambi understands that with over 1 billion USD worth of bauxite in the area, there will be some level of bauxite mining, but they also understand that if the communities in the area and the environment are not taken into consideration in the planning then the result would be an ecological and human disaster.

In my opinion, Iracambi was correct to act. They helped to prepare the community with the Community Skills Project, and some of their other initiatives, such as their push to increase the number of Environmental Protection Areas (APAs) in the Serra do Brigadeiro Territory in order to limit the areas that could be mined, was a good approach.

Interestingly, and as is very common in development, the global north was both the cause and the potential solution to the bauxite problem in the area. Without northern culture's materialistic drive to consume more resources, and to build and use more things, there likely would not be a market for the bauxite in Serra do Brigadeiro Territory in the first place. But because bauxite is used in so many items, such as aluminum products, makeup, cement, and a variety of chemicals, there is a huge market for it. Then, using northern thought, and the northern idea of development, Iracambi designed a project which is funded by an agency of the US government to help mitigate the situation.

There are alternative approaches to development that do not fall within mainstream sustainable development, the dominant development paradigm, which I will discuss in the next section of this paper. For the most part, these alternative approaches were not used in the Community Skills Project, but being that the project was funded by the Inter-American Foundation (IAF), it is not a surprise that
the project fell almost entirely within the umbrella of mainstream sustainable development. After all, the IAF is a development agency of the US government which is funded by Congress and has access to funding from the Inter-American Development Bank (IDB).

“The discipline of economics has furnished bridges between normal practice in development planning and concerns for the environment” (Adams, 2001, p. 139), but this does nothing to redefine the dominant global economic model or adjust relationships between the global north and south which arguably are the causes of “underdevelopment” in the first place. Counter-currents to mainstream development, such as ecosocialism, ecoanarchism, and deep ecology are in opposition to the dominant global paradigm, and therefore have no place in a project that is funded by institutions such as the IAF and the IDB. At the end of the day, mainstream sustainable development is a slightly improved version of business as usual.
Chapter 4: Alternate Approach Discussion

In examining the Community Skills Project, its pragmatic use of mainstream sustainable development, and the counter-currents to mainstream development which for the most part were not used in the project, I did not find a clear solution, or set of approaches, that would have improved the outcomes of the project.

'Sustainable development' offers no escape from the dilemmas of development. The huge achievement of the debate about sustainability has been that it has expanded the horizons of development thinking to embrace the environment. However, it offers no resolution of the moral ambiguities inherent in development. It offers no route around development's hard choices.

(Adams, 2001, p. 369)

Because I did not find a clear solution or set of approaches, I focus my alternative approach discussion on enhancing the participatory aspect of the project, and then discuss counter-currents, especially green development, at the end of the chapter.

Ideally, any program or project begins with community members within the community that needs the initiative. The Community Skills Project, although participatory, was created and driven by people that were relatively new to the community, or outsiders entirely in the case of the volunteers. This can be a problem for many reasons, not least of which is the imposition of differing world views on a community, and a lack of real community knowledge and understanding. With Iracambi this was not as big of a problem as it is with other NGOs. First of all, the community members are primarily of European descent and come from the same post-enlightenment traditions that inform the project leaders.

Secondly, the NGO leaders, the Le Bretons, are permanently based within the community and
have been there for some time. Also, the project director, Marcelo Mendes, has spent a number of years working in the community as the head of the medicinal plants project before the Community Skills Project began. Still, when a project is primarily driven by outsiders, it is important to ensure that the world-view (or many world-views, because of the diversity of Iracambi’s volunteers) of the outsiders do not dominate the direction that the participation takes. It is also important that community members take a lead role in the decision making, rather than just providing information, as has often happened with participatory development.

A big part of the Community Skills Project deals with community participation. Overall, this appears to have been done well, but for the participatory aspects of the project to improve, perhaps the focus needs to move beyond looking at participation as an external set of tools and methodologies, but instead as a means to find ways to integrate the deep-rooted spiritual and cultural traditions of community members. In other words, to combine both the internal and external sides of participation in order to come up with new ways of learning, viewing, and interacting with the world that community members create themselves without manipulation from facilitators and outsiders.

In Rahnema's chapter on participation, he discusses the ability of some community leaders to really listen to community members and help create action and self-discovery that had previously been dormant (1992, 127). “Drawing on the most enduring and inspiring aspects of people's traditions, some of them have been able to use these as living instruments of socio-cultural regeneration” (Rahnema, 1992, 127).

For this to happen it seems necessary to expand participation beyond the formulaic system of participatory planning and tools which are entrenched in methodologies like PRA, and include the spiritual traditions of community members. According to Rahnema:

As a rule, the necessity for a spiritual dimension, and for the revival of the sacred in one's
everyday relationships with the world, seems to be rediscovered as a basic factor for the regeneration of people's space. Wherever this spiritual dimension has been present, it has, indeed, produced a staggering contagion of intelligence and creativity, much more conducive to people's collective 'efficiency' than any other conventional form of mass mobilization (1992, p.127).

One idea which Iracambi seemed to employ in the Community Skills Project, but could be taken farther, is the idea of endogenous development. “Endogenous development means that development is to be sought in each country's own ecology and culture, not in the supposed 'model' of a developed country” (Adams, 2001, p. 150). Endogenous development is about self-realization and focuses on communitarianism, self-reliance, social justice, and ecological balance. Iracambi tailors its work well to the needs of local communities and natural ecosystems, and works to build capacity in community members in order to empower them.

However, to take the idea of endogenous development a step further the Community Skills Project would need to work towards de-linking the Communities in the Serra do Brigadeiro from the modern capitalist economy, rather than strengthening the bonds, albeit in a more socially and ecologically friendly way, through the practice of mainstream sustainable development. One step in the process of de-linking is to look at project funding. Funded by the Inter-American Foundation (IAF), the Community Skills Project is directly linked to the global developmental system.

Also, Projects like Payment for Environmental Services (PES), or the creation of Environmental Protection Areas (APAs), are excellent because they help to protect the land, and in the case of PES, provide community members with income, but they are directly linked to the capitalist economy. A third 'green' vision of the world, which is separate from the capitalist and socialist visions of the world which have dominated modern thought for the last two centuries, has been growing over the last
several decades. “There is no single grand theory of green development to compare with Marxism or capitalism. However, there is a persistent core of ideas that comprise a critique of conventional modernism and developmentalism” (Adams, 2001, p. 153).

In addition to green development, there are other counter-currents to mainstream sustainable development, such as neo-Malthusianism, ecosocialism, ecoanarchism, deep ecology, ecofeminism, and radical environmentalism, to name a few (Adams, 2001), and many of these ideas are incorporated into green development. “Green development focuses on the rights of the individual to choose and control his or her own course for change, rather than having it imposed” (Adams, 2001, p. 382). Also, “green development is not about the way the environment is managed, but about who has the power to decide how it is managed” (Adams, 2001, p. 383).

Green development is open-ended and attempts to take the power from centralized, global institutions of development, and give it to community members at the local level. The Community Skills Project is also open-ended, and serves to empower local communities, so it is like green development in many ways. The one missing piece is that because it is funded by mainstream development institutions in the form of the Inter-American Foundation (IAF) and the Inter-American Development Bank (IDB), it is difficult to truly turn the power over to local communities. What could be an open-ended project becomes technocratic and connected to global institutions. This makes it difficult to let the community take full control, and then see what kind of answers and models arise from the power transfer.

Having said that, in my opinion the funding was needed, at least as start-up capital for the project. To implement a project similar to the Community Skills Project without the IAF funding would have taken significantly longer, and all the while environmental degradation would be occurring. Indeed, the funding that Iracambi received from the IAF for the Community Skills Project was an excellent way to begin the project, but if it is ever going to leave mainstream sustainable development
and seek radical change by employing counter-currents such as green development, Iracambi will need to break financial ties with dominant paradigm institutions like the IAF and IDB. Only then will Iracambi be able to help return the power to local communities through initiatives like the Community Skills Project.
Chapter 5: Lessons Learned / New Knowledge

Even though the Community Skills Project is a time-bound project that will likely end without any clear wins or a resolution to the problems that bauxite mining could impose on the Serra do Brigadeiro Territory and its communities, Iracambi is still there working to achieve their mission of “making the preservation of the Atlantic Forest more attractive than its destruction.”

The Community Skills Project speaks to that mission, so the mission came before the project rather than the other way around which is often seen in development. For me, the lesson learned is that a project should be designed to help achieve a mission that makes sense, rather than just having a project for the sake of the funding that comes along with it so that an organization can continue functioning. For the three years since I returned from my practicum with Iracambi I have been working with nonprofits in the Washington DC area. In that time I have noticed how common it is for organizations to look for funding sources first, and then design the projects afterwards. This is the wrong approach.

Of course, designing a project which speaks to a mission is only good if the mission itself is good. Iracambi's mission seeks to bring the environment into harmony with the local community members. This helps both the environment and the community members because it promotes environmental preservation while working to enable community members to continue living in the Serra do Brigadeiro Territory.

Already across Brazil many rural families have left the countryside for urban shanties for many reasons, and the loss of land and the environmental degradation that mining can cause would surely result in more families from the Serra do Brigadeiro Territory leaving for urban areas and ending their rural culture and way of life. Iracambi's mission ideally helps community members stay put, which I would argue is a good thing for not only the communities involved, but for Brazil as a whole. I suppose the lesson here is obvious: an organization needs a good mission.
Probably the biggest lesson for me is that for a project to succeed, the groups involved need to be as vested as possible in the communities that the project affects. Iracambi is an excellent example of an NGO that is vested in the community. The Le Bretons have become permanent residents in the community, with Robin becoming a naturalized Brazilian. They run their own sustainable farm and do agricultural and forest research on-site. They are actively involved in the area from the local level up to the state levels and have become leaders in their own right, outside of the NGO. The point is that they are not going anywhere. They are vested in the community and the environment, and the health and sustainability of both.

This is something that I had not seen in development before working at Iracambi. From my time in the Peace Corps, to my time at Iracambi, to every other time I have been involved in development, I have always had a plane ticket out and part of me was always counting the days. I think this is true for many practitioners of development. It is temporary. You go in as an “expert,” impose a project on the locals, and then get out. Iracambi is different and could serve as a model for development done the right way, if such a thing is possible.

Lastly, I learned that until development is no longer the dominant global paradigm, much of the environmental degradation, population displacement, and general impoverishment that development can cause, needs to be mitigated by more development. Paradoxically, this makes development both the cause and solution to many problems in the Serra do Brigadeiro. The bauxite in the region will certainly create new jobs and wealth within Brazil, but it will also create environmental degradation, displacement of species (and possible extinction in the case of Brachyteles hypoxanthus), the displacement (and possible destruction) of local communities, and the further destruction of the already highly endangered Atlantic Forest. The dams, mines, roads, and everything that will be needed to extract bauxite from the Serra do Brigadeiro are done in the name of the economic development of Brazil, but then more development in the form of mainstream sustainable development is needed to
mitigate the damage that the mining will cause.

Through the work of Iracambi and the Community Skills Project, Environmental Protection Areas (APAs) have been and are being created to protect the most biologically important areas of the Serra do Brigadeiro, Payment for Environmental Services (PES) and an ecotourism program are in place to off-set the financial loss that farmers would sustain if they do not clear forests, or do not sell their land to be mined, and community capacity building workshops have been held to help empower community members to deal with outside interests and pressures.

So, in the end you have development working to improve development. This is a good thing because it slows down poverty and environmental destruction, but unfortunately it does not stop it. To pull the world out of poverty and create a world that lives in harmony with nature we need something totally different, something beyond development that actually works, and I have no idea what that is, but I think that begins with de-linking from global developmental institutions that are ultimately part of the problem.

As with any endeavor, funding sources are important because they can speak to constraints and agendas that the beneficiaries of the funding may not have intended when they conceived of the project. As an elected official I know first-hand that you see the same thing in politics. Politicians can only run counter to their donors for so long, so it is better to only accept resources from those that truly share your agenda. And in the zero-sum game of global power, it would be naïve to think that a northern development institution would want to transfer any of its power to local communities in the global south.
References


Appendices

Appendix A: History of the Atlantic Forest in Brazil

Appendix B: Proposed Mining in the Buffer zone of the Serra do Brigadeiro State Park

Appendix C: Counties in the Serra do Brigadeiro Economic Development Territory

Appendix D: Relative Location of Sociedade Amigos de Iracambi to Environmental Protection Areas (Areas de Proteção Ambiental, APAs)
Appendix A: History of the Atlantic Forest in Brazil (Green represents remaining forest)

Map 1 - Histórico da Mata Atlântica no Brasil

Fonte: Fundação SOS Mata Atlântica/INPE/ISA, 1996.
Appendix B: Proposed Mining in the Buffer zone of the Serra do Brigadeiro State Park
Appendix C: Counties in the Serra do Brigadeiro Economic Development Territory
Appendix D: Relative Location of Sociedade Amigos de Iracambi to Environmental Protection Areas (Areas de Protecao Ambiental, APAs)