



Community Action to conserve Biodiversity



Linking Biodiversity Conservation with Poverty Reduction

Case Studies from
Latin America and the Caribbean

SGP The GEF
Small Grants
Programme



Community Action to Conserve Biodiversity:

Linking Biodiversity Conservation with Poverty Reduction

GEF Small Grants Programme
Equator Initiative
United Nations Development Programme

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At the heart of this publication are the projects themselves. These experiences are the result of creativity, hard work, and expertise of SGP grant recipients and Equator Prize finalists. SGP national coordinators, programme assistants and community representatives have given generously of their time to respond to questions, provide photographs and review case studies prior to publication. Without their input, producing this publication would not have been possible.

GEF Small Grant Programme

Established in 1992, the year of the Rio Earth Summit, the GEF Small Grants Programme (GEF SGP) channels financial, technical and capacity-building support directly to Non-Governmental Organizations (NGOs) and Community-Based Organizations (CBOs) for activities that conserve the environment while enhancing people's well-being and livelihoods. GEF SGP funds activities in support of the five GEF focal areas, notably: biodiversity conservation, abatement of climate change, protection of international waters, prevention of land degradation, and elimination of persistent organic pollutants.

As a corporate programme of the GEF, SGP is implemented by UNDP on behalf of the three implementing agencies of the GEF, namely UNDP, UNEP and the World Bank. As of March 2006, SGP currently operates in 95 developing and transition countries in all regions of the world. SGP grants are approved by a decentralized National Steering Committee (NSC) at the country level composed of a mixture of civil society organizations, academia, government, indigenous peoples representatives, and donor organizations. Since its inception, SGP has funded over 6,500 projects to reconcile global environmental priorities with local community needs - challenges that have been met in different ways across the globe depending on particular economic, cultural, political and environmental conditions of the countries concerned.

UNDP Equator Initiative

The Equator Initiative is a partnership that brings together UNDP with the government of Canada, Conservation International, the Convention on Biological Diversity (CBD), the German Federal Ministry for Economic Cooperation and Development (BMZ), Fordham University, International Development Research Centre, IUCN—The World Conservation Union, The Nature Conservancy, Television Trust for the Environment and the United Nations Foundation to build the capacity and raise the profile of sustainable communities in developing countries within the equatorial belt.

The Equator Initiative champions and supports community-level projects that link the conservation and sustainable use of biodiversity with economic development. To this end, the Equator Initiative works in four action areas: Equator Prize - a prestigious international award that recognizes outstanding local efforts to reduce poverty through the conservation and sustainable use of biodiversity; Equator Dialogues - a programme of community and local-global dialogues, learning exchanges and meetings that celebrate local successes, share experiences and inform policy; Equator Knowledge - a research and learning initiative dedicated to synthesizing lessons from local conservation and poverty reduction practice; Equator Ventures, a programme focused on blended finance and capacity development for biodiversity enterprises in the most biodiversity-rich locations of the world.

I INTRODUCTION

In the parallel struggles for rural poverty reduction and the conservation of healthy ecosystems, increasing evidence over the past years suggests that poor, rural communities are seizing new opportunities to develop livelihoods based on sustainable environmental management and emerging niche-markets in agriculture, tourism, forestry, and other biodiversity-related sectors. Communities the world over are leveraging the economic value of historically non-economic assets such as local culture and previously undervalued natural resources. Harnessing the currents of globalization, these communities tap the creativity of entrepreneurs and initiate collaboration with whole-salers, retailers, investors, product certifiers, and ultimately customers in complex value chains dubbed by a recent article "Sustainable Local Enterprise Networks" (Wheeler et.al. 2005).

Development agencies are observing these trends with interest and calling for a focus on community and enterprise-based strategies in pursuit of the Millennium Development Goals and other Multilateral Environmental Agreements (Rio Agenda 2001). Markets have been even quicker to engage: demand for local products, including village life as a commodity in itself, has been growing for years. As eco-tourists come to visit from afar, poor communities have an opportunity to build, consolidate and rejuvenate their assets: indigenous culture, wilderness (nature), educational experiences and remoteness are in increasingly high demand.

Markets for community-based enterprises and biodiversity-based local economies, while still relatively small, are growing. Success stories can be found in numerous sectors, including in sustainable forestry and fishing, organic agriculture, eco-tourism, and the production of cosmetics, medicines, latex leather, paper, fiber and other products derived from sustainably harvested herbs and plants. Globally, it is estimated that 22% of the forests found in developing countries are managed by local communities (Bray and Merino, 2004). Mexico alone has over 1000 communities managing forests on communal lands and leads the world with 500,000 hectares of FSC-certified forests, largely run by community-based enterprises. By the end of the 1990s, it has been estimated that the global organic foods market was worth 14.2 billion USD and was growing at a rate of 20-30% a year in the industrialized world. Eco-tourism accounts for only a small percentage of the global volume of package tours, but is growing at up to 20% annually (WTO Research Programme on Ecotourism Generating Markets, WTO 1999). Non-agricultural rural livelihoods are opportunities for much needed employment and diversification of community incomes. Even at current levels, these markets employ millions, create critical new social capital among poor rural populations, and present a unique opportunity to integrate the protection of global biodiversity and ecosystems with demands for improved human security and wellbeing of the poor.

If community-based biodiversity enterprises are an important solution in stemming the tide of adverse poverty and environmental degradation, some critical questions present themselves. What are the "best practices" of these communities and can they be replicated in service of a community-based biodiversity paradigm? How do poor rural communities access opportunities and foster entrepreneurship? Answers to such questions are difficult to come by, not least because of the vast diversity and remoteness of some of the communities in question. However, the science of community-based development is growing. Organizations that have committed resources to the community-based biodiversity and poverty agenda include UNDP's Energy and Environment Group (EEG) and the Global Environmental Facility (GEF). In particular, the GEF Small Grants Programme (SGP) and the UNDP Equator Initiative (EI) have been financing, supporting and showcasing local best practices in community-based biodiversity enterprises.

In this report, the SGP and the Equator Initiative collaboratively present thirty case studies from their portfolio to document and draw preliminary lessons from the successes of community-based biodiversity enterprises. While these cases are selected from across Latin America and the Caribbean and initially emerged from an international workshop in Merida, Mexico, they offer valuable lessons for a global agenda. These lessons are for our purposes grouped along the following five main dimensions:

- **internal enabling conditions**, including community leadership, mobilization and organization;
- **external enabling conditions**, including access to financial, business and technical assistance services;
- **scaling out capacities**, including strategies to build constituencies and alliances with peer organizations and advocacy groups;
- **scaling up capacities**, including access to market and political leverage, sometimes through cross-sector alliances;
- **learning by doing** and capacity building, including self-learning, peer-to-peer learning, and learning from codified lessons.

As this review of case studies illustrates, there is clearly no “one-size-fits-all” in community-based enterprises. Distinct management, leadership and enterprise models are required for different circumstances. Distinct policy and financial interventions are needed depending on the country, socio-political climates, and the specifics of the project. Amidst isolated “islands of success”, these cases also offer transferable lessons and successful examples of scaling-up. Critically, the interchange of ideas, networks, and scalable strategies for the communication of best-practices must be further developed. Challenges that cannot be solved at the local level have the potential to be incorporated into an expanded international “challenge-set” and must inform international policy-making. In order to create a basis for concise, effective communication and problem-solving, market and business literacy is set to become part of the culture of public sector development and nature conservation.

1.1 Methodology

This document began as a contribution to a Regional Exchange Workshop on how to scale-up community-based initiatives held between May 25-27, 2005 in Mérida, Mexico. Documentation was conducted with the support of UNDP Energy and Environment Group, the GEF Small Grants Programme and the Equator Initiative. The UNDP Latin American Caribbean Regional Office (LAC SURF) also provided financial and technical support for the drafting of case studies and the present synthesis. Case studies were commissioned and completed by a group of consultants from the selected countries.

This introduction serves as a summary of, and introduction to, the detailed descriptions of thirty case studies from Latin American and the Caribbean.

The methodology employed in the selection and documentation of the thirty case studies presented was based on guidelines developed by the LAC SURF team. Cases were selected according to geographic and thematic distribution and for their relevance and replicability. Where applicable, SGP coordinators were consulted directly in the selection process. The measure of “success” of a given case study derives from field work conducted and is strongly based on the perceptions of community members consulted during the process of documentation. Twenty-two cases have been selected from SGP programmes in Bolivia, Chile, Costa Rica, Dominican Republic, Ecuador, Guatemala, Honduras, and Mexico. Eight cases were selected from among the Equator Prize finalists in Belize, Brazil, Colombia, Guatemala and Peru.

Case Study Format

BACKGROUND, describes the initial situation, project/process location, general social and environmental conditions of the area and the main problems addressed by the initiative.

PROJECT DESCRIPTION, refers to

- Implementation
- Technology
- Environmental Benefits (global and local)
- Local Livelihood Benefits (Poverty reduction, Employment, Income generation, Social inclusion)
- Regional and National Benefits (Demonstration effects, Capacity building, Policy development)
- Beneficiaries
- Partners

LESSONS LEARNED with regard to

- Environmental Management
- Barrier Removal (Financial, Institutional, Information and Knowledge)
- Scaling Up

Thematically, the distribution of case studies include eight eco-agriculture cases, including one in animal husbandry, six experiences linked to ecotourism, five experiences related to community forestry, with the rest distributed among marine resources, beekeeping and renewable energy. In terms of the main actors of the project, over half (16) the cases were community-based organizations (CBOs), seven were non-governmental organizations (NGOs), six were indigenous organizations, and one was a national umbrella coalition.

It is important to stress that this collection of case studies by no means constitutes an exhaustive review of community-based rural enterprises in Latin America. Limited resources and available space restricted the range and breadth of the case studies. It becomes clear, however, that important lessons can be drawn from this sample group: the complex

interaction between local community-based organizations, small-and-medium-sized enterprises, wider markets, value chains, and the combined impacts on sustainable livelihoods and nature conservation deserves further research and greater attention.

2 WHAT IS A COMMUNITY-BASED BIODIVERSITY ENTERPRISE?

The entrepreneurial initiatives documented in this report have produced a range of biodiversity products and institutional networks that allow us to identify and categorize them as community-based biodiversity enterprises. Below are some of the characteristics used for this identification and categorization.

2.1 Biodiversity Products

Communities and local enterprises which sustainably harness biodiversity as a means of income generation most frequently produce within the following categories: forest products (timber, palm fronds, pulp/paper products); non-timber forest products (NTFPs, such as rubber, resins, fruits, seeds, nuts); agricultural products (landrace/native crops, indigenous seeds, major and minor crops, roots, shoots and tubers, fruits, honey, beeswax); horticultural and botanical products (ornamental flowers, medicinal plants); agroforestry products (coffee, cocoa, cacao and other fruits); handicrafts and textiles (baskets, silk and cotton fabrics, embroidered clothing); personal care and health items (makeup, soaps, essential oils, medicinal plants and supplements); aquatic products (edible and ornamental fish, oysters, pearls, sea urchins, seaweed, sea moss); livestock products (ostrich, green beef); and insect products (butterflies).

For certification and marketing purposes, biodiversity-based products may also be categorized by social group (women's products, indigenous/traditional products, small farmers/fishers products), region (cerrado/desert/rainforest products), productive scale (community products), and applicable model (organic, fair trade, climate-friendly). Table 1 presents a simple matrix of product categories based on social, environmental, and economic standards.

Table 1: Biodiversity-Based Products with Environmental, Social and Economic Benefits across the GEF SGP portfolio

Category	Example Products
Women's Products	Crafts, Medicinal Plants, Textiles
Indigenous/Traditional Products	Medicinal Plants, Seeds
Small Farmers/Fishers Products	Coffee, Minor Crops, Shrimp
Community Products	Timber, Fruits, Extracts, Nuts
Youth Products	Crafts
Regional/Ecosystem Products	Rainforest, Desert, Cerrado, Amazon
Organic Products/Sustainable Agriculture Products	Major and Minor Crops, Fruits, Dairy Products, Beef Products
Fairly Traded Products	Crafts, Coffee, Sugar, Fruits, Chocolate, Timber
Climate-Friendly Products	Solar Dehydrated Medicinal Plants and Agricultural Products, Agroforestry and Non-timber Forest Products
Forest-Friendly Products	Agroforestry and NTFPs
Ocean-Friendly Products	Pearls, Shrimp, Seaweed

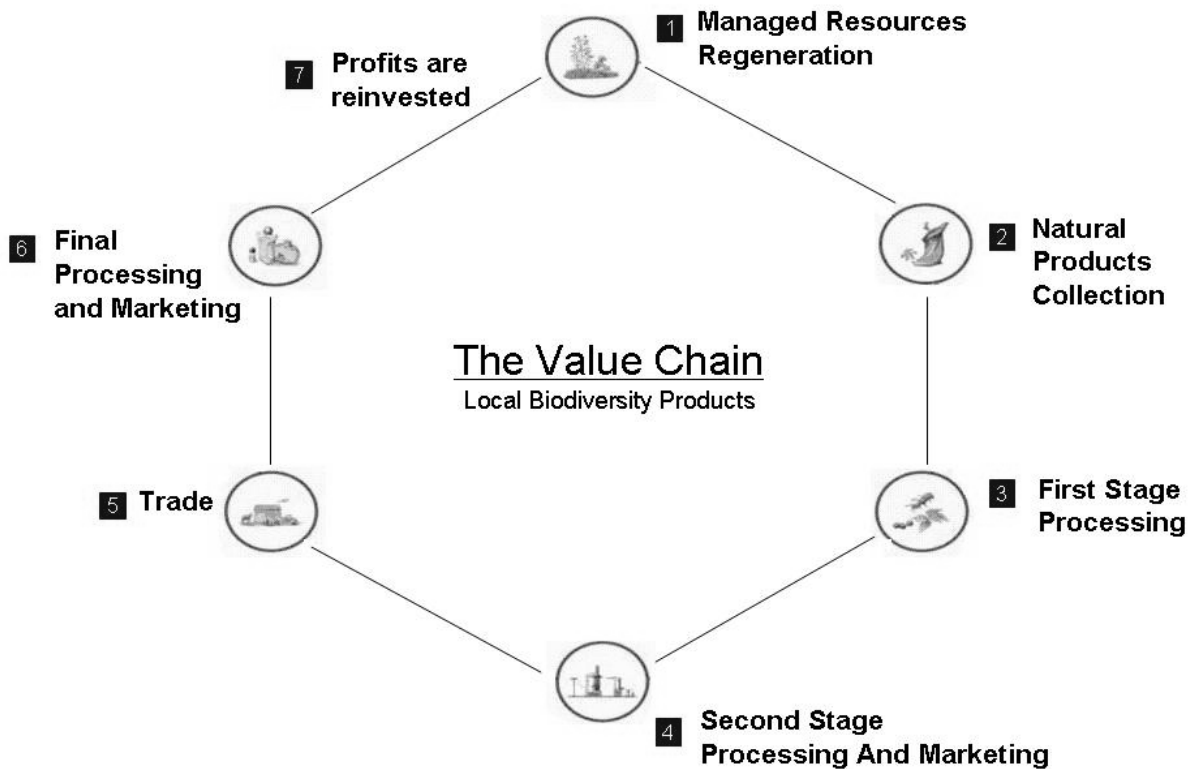
Source: C. Steward, 2005

2.2 Community-based Enterprises

Community-based enterprises are entrepreneurial initiatives at the boundary of economic and institutional formalization. Some are internally spearheaded, others are exogenous donor-initiated projects, while even others are driven by a local entrepreneur. Some operate within an informal economy, others are incorporated as formal small-and-medium-sized enterprises and cooperatives. Community-based enterprises usually have no more than one hundred employees and annual revenues of less than \$500,000 USD. Due to their value chain, many community-based enterprises have a global reach despite their limited scale. For instance, small coffee producers and their respective community-based cooperatives produce for customers worldwide, often with specifically branded and certified coffee products via dedicated sales channels.

2.3 Local Enterprise Value Chains and Networks

The reach of local community-based enterprises is testament to the scope of globalization and the immense potential for scaling up. The field-to-market (or: tourist-to-village) operations of most community-based biodiversity products involve complex and expensive value chains (see figure below). Disproportionate transaction costs are one of the reasons local enterprises seek incubation and financing from public and private domain investors seeking social, ecological, and financial returns— what has been called the “triple bottom line.”



A recent summary of 50 local enterprise and value chain case studies published in the MIT Sloan Management Review speaks to the reality that “sustainable enterprises in developing countries typically involve relatively dense networks of for-profit businesses, local communities, not-for-profit organizations and other actors, working in a self-organized way to create value in economic, social, human, and ecological terms” (Wheeler et.al. 2005, p.35). The analysis identifies and defines several recurring elements in these networks:

- Financial Anchor: a formal business to anchor the network and secure its financial sustainability. The study cites ForestTrade Inc., a Vermont-based company with subsidiaries in several developing countries which trades spices and other rainforest-based products sourced from community-based producers.
- Overt Social Mission: extends through the value chain and unites the diverse players, including at extreme ends of the chain multi-national retailers such as Cooperative Coffees who source from small, certified producers.
- Sustainable Outcomes: align the strategic objectives and investments of diverse players as they address four broad categories: 1) profit and reliable return on investments; 2) local economic development and trade; 3) enhanced quality of life; and 4) individual and community-based economic self-reliance.
- Exogenous Investors: invest in one or all of four categories (human, social, financial or ecological capital) and arrange for re-investments in order for the network to grow and become sustainable. “Microfinance loans had to be repaid and profit from enterprises reinvested in the network; ecosystem resources had to be preserved...; good will and trust-based relations had to be reciprocated...; and trained individuals needed to pass on their expertise and mentor others...” (p.36)

3 HOW COMMUNITY-BASED BIODIVERSITY ENTERPRISES SUCCEED AND PROSPER

3.1 Internal enabling conditions

Internal enabling conditions are key localized factors that provide the foundation necessary for community-based organizations to thrive. These conditions influence the capacity of a community to mobilize the skills and political will necessary to succeed. From the case studies reviewed, four principal categories of internal enabling conditions have been identified: leadership, community participation, gender empowerment, transparency and accountability.

3.1.1 Local Leadership

Local leadership takes a variety of forms and plays a vital role in the success of the 30 reviewed cases. Successful local leadership requires a long-term commitment to the community and the respective initiative. An analysis of the literature on community initiatives reveals that leaders who are competent innovators, communicators, learners, bridge-builders, and systems thinkers are most successful (Timmer, 2004). With time and commitment, even non-native community members and outside entrepreneurs can assume important leadership roles. Successful leaders evolve from a variety of reasons, but all share the respect of the communities they work with. In Pichasca, Chile, local leadership was provided by a professor specializing in adult education who commanded broad respect within the community (see Box 1). In the Lafkenche indigenous community of Chile, leadership was assumed by youth groups who injected the organization with new dynamism while building on traditional elements of their cultural identity.

Effective local leaders possess a capacity to mediate and resolve social conflicts between community members in an objective manner. During the initial stages of the project “Sustainable Mangrove Management, Stewardship, and Reforestation,” on the island of Costa Rica, Ecuador, leadership was central in resolving a protracted dispute between actors intent on blaming each other for previous environmental degradation.

Effective leadership is often a consequence of revived traditions. In addition to strengthening confidence and self-esteem, culturally-rooted traditions often allow the re-appearance of old production techniques which, when combined with new insights, produce products of higher value or encourage the revitalization of traditional forms of ecosystem management. The Ecoalbergues Garifuna case in Honduras and Lafkenche case in Chile both capture well these leadership dynamics.

In addition to their social skills and capital, good leaders often possess the technical skills necessary to advance a project, including locating and securing outside support at opportune moments. The ability to network and maintain positive relationships with external supporting institutions (government, private sector, NGOs, international organizations) is a common thread connecting effective leaders.

Abrupt changes in leadership without a proper transition can undermine progress and instigate social conflicts as a community attempts to fill the leadership vacuum. ACOFOP in Guatemala recognized this potential obstacle and has taken concrete measures to encourage long-term leadership commitment by strengthening the institutional knowledge of the local council, and by training the next generation of leaders in technical, legal, and financial matters.

3.1.2 Community participation and ownership

All evaluated case studies possess an element of community participation and/or ownership, a pre-condition for GEF SGP or Equator Initiative consideration. The level of community participation refers to the degree that community members engage in a project and how open and democratic the consultation and decision-making processes are. Given the heterogeneity of communities, levels of motivation, participation, and ownership differ in each context, as do appropriate institutional forms. For instance, local trust funds may provide voting rights on behalf of the community through a representative on the trust’s board, but not outright ownership.

In a number of enterprise projects, community members do own the enterprise (most commonly) through an incorporated cooperative in which all members have equal rights and share equally in profits. The structure of “for-profits” in most countries can in most cases include shared ownership on behalf of the community or community representatives. The technical support programme for Atitlán Lake Basin Coffee Consortium in Guatemala exemplifies the institutionalization of community participation through the formation of a first-level agricultural association (APOCS). The Atitlán Lake Basin Consortium has also made strides to disseminate technical knowledge of organic coffee cultivation to individual producers, reducing the initiative’s dependence on outside technical assistance. In the Dominican Republic, IDEAC developed their project for biodiversity conservation and organic coffee cultivation with the direct input of beneficiaries through an innovative process of rural appraisals (Diagnósticos Rurales Participativos).

The efficacy of community ownership in achieving conservation and financial sustainability is hotly contested, particularly when the entrepreneurs originate from outside the community in question. In nearly all cases, ownership will be essential to ensure that the community remains engaged and committed to the objectives of the enterprise. In other cases, entrepreneurs have invested in local companies which employ and train community members as managers. In all likelihood, a hybrid form of “community-owned” and “community-managed” structures may be the best path for external entrepreneurs and technical assistance groups to gradually transfer assets and expertise to a community.

Hurdles nonetheless arise when transferring either ownership or management. Additional shareholders often complicate matters of management, and giving employees more training, expertise, and managerial authority increases the risk of loss of skilled personnel to other ventures (Morris 2005). However, the increase in community commitment, higher levels of retention, and effective diversification of management risk, most often justify the transfer.

3.1.3 Gender empowerment and equity

Biodiversity conservation and poverty alleviation depend to a large degree on the active participation and leadership of women. Many successful community initiatives are led by women or have ensured that women are included in many/all aspects of the organization’s decision-making and/or are afforded equal access to benefits. This theme plays out in the cases of Alto Yaque in the Dominican Republic and the Lupaxi and Bosque community in Ecuador.

Box No 1:

Internal Enabling Conditions

In Pichasca, Valle del Limarí, Chile, a community-based organization composed of 94 families organized to address the process of local desertification through recuperation of deforested areas and utilization of renewable energy (solar ovens). From its initial planning stages, the organization developed a mechanism to ensure community participation and ownership in the decision-making process by creating a democratic, representative assembly (“Junta de Vecinos de Pichasca”). The organization also recognized and capitalized on the unique role that women occupy as both heads of family and in the agricultural sector, as demonstrated by the gender composition (64 women and 30 men) of the organization. Local leadership also contributed to the success of the Pichasca initiative, due to the quality and capacity of the coordinator, a local professor specializing in adult education well-respected within the community.

The Garífuna Women’s Ecotourism Enterprise, a community tourism project in Honduras, is comprised entirely of women and is managed in a participatory and consensual manner. When necessary, projects also create specific mechanisms to empower women. A primary activity of the agricultural cooperative in Chimborazo province, Ecuador, was to consolidate women’s organizations and their work to achieve food security through recuperation and conservation of native seeds.

3.1.4 Transparency and accountability

In a growing business, the tension between private and public interests and the influx of new relationships, opportunities and money can distort the balance of a community. Transparency and accountability (especially in financial matters) are vital to the continued engagement and strength of community participation. Effective channels of communication and information dissemination are necessary to facilitate transparency. Additionally, the distribution of profits should fortify political and administrative management within communities. Financing “top-down” to serve exogenous donor and investor interest runs the risk of undermining donor/investor legitimacy within communities. The ecotourism enterprise formed by the Integrated Rural Ecotourism project in Guatemala promotes transparency and accountability through a finance board with oversight on project finances.

In the infancy of a community project, when there is a significant influx of resources, experience has demonstrated that by contracting external financial professionals and establishing transparency mechanisms to ensure legitimacy, local organizations are better equipped to avoid conflicts caused by the perception of financial impropriety. After community members develop their own capacity to manage funds without external support, accounting functions can be transferred back to internal management.

The clear distribution of assignments among community members involved in an initiative emerges as a key variable in achieving long-term legitimacy. Accordingly, it is vitally important to maintain vibrant community debates and ensure continued space for dialogue.

3.2 External enabling conditions – Access to Finance, Technical and Business Services

The facets through which community-based enterprises interact with the outside world are shaped by their access to financial, technical, and business services. Services can be delivered by formal business partners such as banks and traders, government extension and training programmes, NGO-run projects, or even self-help groups.

3.2.1 Financial Services

Access to appropriate financing is simultaneously the *sine qua non* and defining challenge for community-based enterprises during their growth. Where progressive and socially-minded entrepreneurs struggle to achieve a private character for their initiative, conservative financiers see a largely informal, public environment with high risks and low returns. Only the most dedicated and expert investors are able and willing to enter under these circumstances. The need for appropriate investments - often in a blend of private and public funds - is paramount.

Many of the cases received their first outside funds from donors such as the GEF SGP - in some instances co-financed by other sources. In the fruit development initiative in Bolivia, the community received funds and in-kind support from an independent foundation, associated businesses, and the local municipal government. Further, individual community members themselves provided 13% of the total cost of the project. In other cases, enterprises received funding from long-standing national and local NGO relations related to their projects and priorities. However, such traditional sources of project funding are gradually being complemented by conventional and unconventional sources of explicit enterprise finance.

Box No 2:

External Enabling Conditions

Bolsa Amazonia takes advantage of interest in socially and environmentally responsible consumption by bringing specialized local produce from the Amazon (fibre-based products, heart of palm, soaps and perfumes) to international markets, and integrates local communities into larger production chains on an equitable basis. In the regional context, the initiative promotes South-South cooperation through the development of a pan-Amazonian, decentralized programme. Bolsa Amazonia has offices in four Brazilian States (Pará, Amapá, Rondonia, and Acre); in Bolivia, Colombia, and Ecuador; as well as several abroad to promote its biodiversity-based products. Additionally, Bolsa Amazonia is developing a network of civil society organizations (CSOs) dedicated to the same principles of environmental conservation and poverty alleviation at the local level.

Of the cases reviewed, only a few show a lasting credit record with a commercial bank. However, large rural enterprises such as the *ejido* Noh Bec and ACOFOP have grown over time to employ full commercial credit and represent the “outer boundary” of today’s finance markets. Cuero Vegetal da Amazonia, a 2002 Equator Prize finalist, has been operating its traditional rubber-tapping industry on fully commercial credit terms for a number of years.

With some exceptions, the majority of enterprises in this review have had access to blends of micro-finance, small levels of credit, and rotating funds. The major investment challenge for many local enterprises, however, remains the cost of full “private” formalization (e.g. legal recognition, secure land tenure, certification). In a number of cases, interests beyond the communities have impeded progress. As a consequence, the credit rating and overall business performance of these community-based enterprises was affected.

At the same time, remittances from family members working overseas form an increasingly important, unconventional source of funding. In some Caribbean and Central American nations remittances constitute a significant proportion of finance at the community level. While most remittances are invested in consumption and construction, some funds are also being invested in the productive sectors of local economies.

An important question in community-based enterprise development remains: how do communities access seed capital at a very early stage? Extrapolating from the case studies, a common practice to date is auto-financing by the communities themselves. In the case of *ejido* Noh Bec in Mexico, initial contributions from the *ejidatarios* served to get the forestry project off the ground. These developments were followed by state funds, grant funds from GEF SGP, and other sources of non-refundable finance.

3.2.2 Technical Assistance Services

State-run agricultural extension services are often antiquated. Most Latin American and Caribbean countries have witnessed a steady decrease in publicly-funded technical assistance to rural populations. The result has been that communities have been forced to explore alternatives. Two predominant approaches have emerged: 1) a stronger role of the private sector in technical services provision (particularly to larger producers and enterprises); and 2) “*campesino a campesino*” assistance, as demonstrated by a 2002 Equator Initiative winner from Nicaragua who encourages communities to train their own promoters to provide training to other like-minded groups. Small community organizations have benefited from this horizontal assistance which has helped to fill the gap left by traditional agricultural extension services.

In many of the thirty cases, communities have also benefited at some stage from external business advice. In the Dominican Republic, IDEAC was supported in their process of transition to organic coffee cultivation by a host of governmental organizations (La Oficina de Gestión Ambiental Municipal) and non-governmental organizations (FUNDASUR, Centro LEMBA, etc.) through technical expertise on certification (organic, Fair Trade, Forest Stewardship Council timber labels). In another case, a local academic institution (BAGAF-UATF) offered their services in technical investigation and capacity-building to the Bolivian community of Rio Abajo to support their project in sustainable management of the local Palquí forests. In most cases, communities made efforts to train their own members and avoid long-term dependency on costly external providers.

In several of the cases, access to product labels or certification has proven to be a critical step in capacity development and assistance. Certification schemes exist in many countries as a market-based mechanism to check illegal logging, reduce deforestation, and enforce environmental protection. In the past, formal certification of organic agriculture and forestry in Latin America and the Caribbean was restricted to enterprises that could afford it.

However, more recent developments in the growth of labeling standards for different markets, the emergence of certification agencies with global coverage (e.g. FSC, Rainforest Alliance, IFOAM), better horizontal integration, and growth of membership, has created economies of scale and contributed to an increase in the accessibility of certification services for particular products. A number of these value-added labels share common monitoring and process indicators, raising the possibility to develop a set of ‘common minimum standards’ for marketing of biodiversity-based products.

3.2.3 Business Services

Demand for community-based business development services is producing and shaping a growing sub-sector across Latin America. Financial management, computer literacy and other business skill training services are in some cases provided by consulting firms, university departments, and to a lesser degree NGOs. Donor institutions are also increasingly combining micro-financing with the development of self-help groups and community-based organizations. In the case of the “Fundación para el Desarrollo Frutícola” (FDF) in Bolivia, the private enterprise CEPROCO helped to improve fruit production sales through business services in the area of marketing and branding.

Marketing is a critical area of business development services of which labeling schemes and/or certification is a component mechanism at the core of the biodiversity sector. So far, formal certification services have been provided by international networks of mission-driven expert intermediaries who combine certification with community training and global marketing. Increasingly, however, labeling schemes are becoming associated with landscape-level or bioregional branding strategies such as those found in the Amazon region (e.g. ‘Xingu’ indigenous territory demarcation label), and regional certifiers are growing in importance (see Box 2). Building on the European model of geographical indications (GIs) for certain products (such as wine and cheese varieties), new designations of “cultural landscapes” are currently being recognized in other parts of the world for products including coffee, tea, upland rice, as well as the Tequila cultural landscape now being considered for World Heritage status.

Products derived from community-based sustainable management of natural resources in these bioregions are developing mechanisms for labeling of non-timber forest products (NTFPs), controlled denomination of origin, and other quality and brand programmes. In this set of case studies, the Kabil Habin cooperative organic honey producers have benefited from certification schemes through which they forged alliances with national, regional, and international players. They now produce, along with many other small organic honey producers organizations in the Yucatán Peninsula, most of the organic honey produced in Mexico.

3.3 Growing in Scale

Growing in scale may be the most important challenge in the case studies reviewed. For the purposes of this study, we have chosen to separate the notions of scaling-out and scaling-up. Scaling-out is defined as the process by which an organization expands horizontally, incorporating more members and increasing its geographical coverage. Scaling-up can be organizational or political. Organizational scaling-up describes the process by which an organization establishes external links with public and private agencies to improve capacity and access to finance and other resources. Political scaling-up refers to the political process that affords a community organization greater empowerment, access to political influence, and sales in international premium markets.

3.3.1 Scaling-Out: the importance of constituency building

For several of the documented experiences, one of the crucial steps to success was building a solid constituency. This was achieved through a variety of means and often related to the internal enabling conditions analyzed earlier. In some cases, scaling-out is part of the construction or recovery of a common cultural identity. Such is the case with MUTU, the Garifuna women's ecotourism association from Honduras. Similarly, the Lafkenche community in Chile regained ancestral rights over their marine and terrestrial resources. A cohesive social group is a clear advantage when negotiating land rights. In other documented cases, scaling-out is a means of recovering and reconstituting agro-biodiversity, as in the case of the agricultural cooperative in Chimborazo province, Ecuador. In this instance, outreach efforts by the indigenous organization were targeted at those possessing seed stock and managing crop varieties. Scaling-out can also serve to increase diversity and to build alliances with neighboring communities while broadening the membership base of the organization.

Sometimes an enterprise will both build local constituency and forge alliances with outside organizations. AFAPROSUR in Costa Rica assisted in the creation of a regional farmers market for organic produce while simultaneously forging alliances with ACICAFOC, an organization that connects community forestry organizations in Central America.

In economic terms, scaling-out is all about pooling resources. ACOFOP in the Petén, Guatemala, is a good example of how external enabling conditions increased the potential for growing in scale. Following a community forest concession of 350,000 hectares granted by the government of Guatemala to some 34 communities of eastern Peten, in 10 years ACOFOP built up one of the most successful community forestry enterprises in the region. Scaling-out in this case increased membership, and created economies of scale for profitable forest management.

The Organic Agriculture Movement of Costa Rica (MAOCO), is another example of an umbrella national coalition which regrouped several smaller national and local organizations, enabling better access to technical cooperation, and generated more effective advocacy work and outreach. Partly dedicated to promoting organic agriculture and lobbying for new legislation, the organization is also building a national programme and has formed regional and local committees throughout the country.

As the MAOCO case (Costa Rica), Café IDEAC (Dominican Republic), Noh Bec (Mexico), and the Ecoturismo Quiche (Guatemala) illustrate, connecting with local and even regional governments not only gives communities leverage, it also helps boost morale. Facilitating agents with strong convening power, such as the UNDP and GEF SGP, can play a vital role in such scaling-out strategies.

3.3.2 Scaling-Up: Localizing Globalization?

In order to successfully harness globalization to the advantage local communities, the interest and capacity of exogenous players to create enabling conditions is critical. While many Latin American rural economies have long exploited their link to global markets, the cases documented here show that local enterprises are gaining preferential access through certification and other innovative marketing techniques.

While financing (particularly private) is vital to supporting community-based enterprises, the case studies reviewed lend credence to the notion that scaling-up depends in large measure on political processes. Access to the national government through a joint commission or a roundtable created, in several cases, the necessary external enabling conditions for success. In the case of Lafkenche in Chile, the *Mesa Nacional* constituted a key step in scaling up the support for its land use regulation proposal for the coastal zone.

In Mexico, the evolution of the *ejido* Noh Bec represents one of the most significant community forestry experiences in Mesoamerica. Long-standing recognition of collective land rights (dating back to the Mexican revolution in 1910) and the broad recognition by national and state authorities of forest communities' rights were important enabling conditions for success. Scaling-up at Noh Bec meant building on public capital and accessing private markets for timber products, using FSC certification and a wide range of alliances.

Kabi Habin (Miel de Flor), a community-based group of beekeepers in Quintana Roo, Mexico, succeeded in converting from conventional to organic honey production by seizing a number of opportunities. By accessing organic and fair trade certification, Kabi Habin increased membership revenues and was able to invest in further training of younger members of the community. Organic certification also had an impact on land use and led to the elimination of pesticide usage, benefiting the beehives and reducing costs over time. Scaling-up in Kabi Habin involved outreach consolidating international alliances with the Fair Trade Labeling Organization (FLO), and by becoming active members of national and international beekeeper associations.

Organic coffee producers of the cooperative IDEAC in Dominican Republic also consolidated a network of alliances in order to scale-up and expand their market share. Through an innovative combination of access to certification and marketing strategies, IDEAC has succeeded in increasing their production and revenues. Similarly, the Vicuña project in Chile developed original marketing techniques to situate alpaca and vicuña wool in the European market. As this case demonstrates, eliminating intermediaries is an important step for more equitable and profitable development at the community level. *Cuero Vegetal da Amazonia* and its partner *Amazon Life* in Brazil achieved this by scaling-up through the value chain and managing an international retail presence online, as well as by opening stores in Rio de Janeiro and elsewhere in Brazil.

In practice, organic certification has made a considerable difference for community enterprises in diversifying their consumer base beyond local markets. It has not only meant better returns on investment as in the cases of Café IDEAC or Kabi Habin Organic Honey (Mexico), but heightened attention for healthy agriculture has reduced the risk of crop diseases, as in the case of Café Atitla (Guatemala). Improved incomes from niche markets, as in the case of gourmet coffee, have enabled communities to weather one of the worst structural crises in the price of coffee.

As with forest certification, access to organic certification constituted a major hurdle for small producers. To address this market barrier, and support entrepreneurial communities, the Mexican Escuela de Agricultura Ecológica created a bolsa de credito, or rotary fund. In other cases, such as MAOCO in Costa Rica, the emergence of a national certifying agency has made certification more accessible to smallholders. National advocacy groups like MAOCO play an important role in raising public awareness and expanding the potential reach of internal markets. The fruit development initiative in Valleggrande and Moro Moro, Bolivia, benefited from the growth of local and national markets for organic produce. Certification opened further doors to more lucrative international markets for organic produce.

3.3.3 Knowledge brokering, learning and exchange

Successful community-based enterprises are attentive to what “works well” in other situations and cognizant of their own shortcomings and internal mistakes. Several cases document the importance of building knowledge through stocktaking and horizontal exchanges. Additionally, the cases demonstrate that traditional knowledge recovery and application is critical in the learning process. For the Garifuna women of MUTU, community ecotourism was a vehicle for restoring and reinvigorating oral history and tradition. Similarly, Lafkenche community leaders worked to restore traditional gatherings to discuss issues relating to land use regulation.

The Mani traditional agricultural school in Yucatan, Mexico, presents a more structured approach to knowledge management and learning. The initiative, established to formally codify traditional resource use and eco-agriculture within the Yucatán, used GEF donor funds to create a school where capacity development and horizontal learning exchange take place on a regular basis.

Collective organizations such as the *ejido* Noh Bec, a large *ejido*-based community forestry enterprise, have consistently invested in the training of members and the development of managerial and technical capacity. The Yungilla Ecotourism initiative in Ecuador found similarly that making the necessary investment to train community members as tourism guides eventually pays off.

Community-based organizations can gain a lot from one another, as the Palqui community forestry experience in Bolivia shows. In some cases, workshops and training initiatives led to national level gatherings, as with the Pichasca case in Chile. Several other cases also point to the role of assemblies and other collective action bodies as tools for institutional learning. Growing in scale hinges critically on the willingness and ability of community-based organizations to learn from their mistakes and share their successes.

4 Important Opportunities for Donors to Support Local Biodiversity Enterprises

Do the thirty cases analyzed in this report represent a compilation of dispersed success stories or do they reflect a regional (or even international) movement of community-based enterprises that can both conserve biodiversity and reduce poverty? If the latter is plausible, can this larger movement of local enterprise networks in Latin America and beyond be supported and nourished by interested conservation and development donors? Although available data is inconclusive, the portfolios of the GEF SGP and Equator Initiative suggest that the growth in scale of community-based enterprises, and the markets for locally-certified products, are both increasing.

And yet, the odds against most community-based enterprises in Latin America and the Caribbean are huge. Most of these enterprises face high policy barriers such as unfair trade regulations, skewed land tenure, lack of recognition of rights and entitlements, and political isolation. Market perception is still largely against the idea that “small can be beautiful.” Insufficient access to training, commodity price volatility and asymmetrical information are hurdles to entry that have been identified throughout this case review.

Perhaps the most important market barrier to growth is a lack of access to credit. Growing small enterprises are often forced to choose between non-commercial grants - which are less costly (though not free, given costs in reporting), and in many cases neither renewable nor scalable - and commercial loans in local markets at unfair terms and interest rates. Development and conservation donors are thus realizing that they now have an opportunity to begin to “smart-subsidize” global or local financiers who wish to invest in community-based biodiversity enterprises. In order to guarantee that commercial loans address social, environmental and economic objectives, donors are beginning to work with financiers by providing a “partial risk guarantee” in order to share transaction costs, business development, and community outreach. A recent partnership between the Equator Initiative and CI's investment fund Verde Ventures is developing this approach. Other investors in small-and-medium-sized enterprises, such as Aureos, also argue that:

“The critical lesson learned... is that it is not possible to build a sustainable, independent venture capital fund management business on the back of a strategy focused on the “S” [small enterprise] segment alone, due to limitations in fund sizes and insufficient management fees despite extremely high cost bases... Hence, an effective “S” segment fund strategy must be predicated on the mobilization of sufficient donor funding for the business development services necessary to grow sustainable SMEs.” (Aureos 2004)

Another important area for donor support remains the refinement of credible, accurate and timely performance and impact data. This information will be essential to persuade financiers to consider local social enterprises as a viable market category. Even though comprehensive measures do not yet exist, the cases in this review indicate that community-based enterprises represent crucial vehicles for achieving the 2015 Millennium Development Goals (MDGs).

The GEF SGP has been monitoring the global environmental benefits of its projects since the early 1990s and has recently upgraded its impact assessment system to include poverty reduction and empowerment benefits. The backing of further work in the development of local monitoring tools and evaluation of business performance vis-à-vis environmental and socio-economic benefits (referred to as the “triple bottom-line”) is still in its infancy. With time, even in the complex biodiversity sector, these monitoring protocols stand to become a powerful mechanism to persuade markets to invest in community enterprise networks. Finally, donors can also play an important role in providing the long-term support necessary to overcome lack of skills and information. As Wheeler et.al. summarize, building such sustainable local enterprise networks

“... will require an unprecedented degree of cooperation between international agencies, governments ... They will need to think of themselves not just as policy makers, relief agencies, rule setters or profit makers but must also reconceptualize their roles as networks builders, capacity builders, network incubators, and leaders and disseminators of lessons learned.” (Wheeler 2005)

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Toledo Institute for Development and Environment (TIDE), Belize

Themes

- Catalyzing the sustainability of protected areas
- Mainstreaming biodiversity in production landscapes and sectors
- Institutional capacity development
- Policy and legislation
- Education (MDG 2)

PROJECT DATA

Project Name: Toledo Institute for Development and Environment (TIDE)

Implementing Organization:

Project Location: Maya Mountain Marine Corridor, Belize

Equator Prize Contribution: 2002 finalist

Ecosystem Type: Forest, mangrove lagoons, coral reefs and small islands

Natural Resources Conserved: Sea turtles, manatees, crocodiles, jaguar, tapir, lobster, and conch

Start Date: 1997



TIDE trains community residents to be guides and stewards of the Port Honduras Marine Reserve (Belize).

manatee in the world. There were no independent NGOs monitoring the logging, fishing, and agricultural industries of Southern Belize at the time. TIDE co-manages the Port Honduras Marine Reserve, which serves primarily as a recruitment area and habitat for juvenile and adult marine species.

PROJECT DESCRIPTION

Overview

The Toledo Institute for Development and Environment (TIDE) is a local NGO that implements the Maya Mountain Marine Sustainable Livelihoods Initiative, which covers a mountain to sea corridor. TIDE works with local communities to enable them, through training, to adopt more sustainable methods of fishing and farming and to develop small-scale ecotourism ventures. With community participation, it co-manages two national parks with the Belize government.

Implementation

Community support for conservation is ensured through the participation on TIDE's advisory boards of residents who live on or adjacent to the areas. Its Board of Directors includes fishermen, a farmer, a tour guide operator, a community worker, a teacher, and the Dean of the local University, who are drawn from all parts of the Maya Mountain Marine Area and from all major ethnic groups in the Toledo District. It also works cooperatively with government officials and has extensive links with the academic community in Belize and abroad, working with graduate students in marine biology, for example. Additionally, TIDE builds partnerships with the private sector, especially through its for-profit tourism arm, TIDE Tours, which serves as in-bound tour operator with tourism services to local providers. Ongoing research activities are carried out by TIDE to track changes in resource populations, community compositions, and health

BACKGROUND

Whilst most of Belize is covered in forest, its world-renowned marine areas include coastal mangrove lagoons, coral reefs and small islands known as cayes that provide habitat to sea turtles, manatees and endangered crocodiles. The Maya Mountain Marine Corridor is a million-acre region connecting upland tropical rainforest and pine savannas with mangroves and offshore cays. It includes seven intact watersheds that flow into coastal wetlands and marine waters to an offshore barrier reef, second in size only to Australia's Great Barrier Reef. The corridor is composed of a number of protected areas along whose length live many of Central America's endangered species, from jaguar to tapir to West Indian manatee (*Trichechus manatus*). TIDE works in part of this corridor, the Toledo District, in which the Maya Mountain Marine watershed is located. This is Belize's poorest and least developed region, with an unemployment rate of about 50%. Until recently local people relied heavily on subsistence agriculture, hunting and fishing for livelihoods. But with fish stocks on a downward spiral, traditional ways were fast becoming unsustainable.

TIDE was founded in 1997 to respond to the negative environmental effects of unsustainable resource use (such as manatee poaching, illegal fishing and logging, and destructive farming methods) focusing on conservation. In particular, its formation was a reaction to a spate of manatee killings in the Gulf of Honduras - Belize is home to the largest population of the endangered West Indian

of the ecosystems over time. These activities include monthly water quality assessment, underwater lobster and conch visual surveys, mangrove and seagrass monitoring, and coral and fish surveys.

Environmental Benefits

Global: The Belize Barrier Reef, second in size only to Australia's Great Barrier Reef, is an important centre of biodiversity.

Local: Through TIDE's work, many environmentally destructive activities have ceased or have been replaced by more sustainable ones. A Net Exchange Programme eliminates the use of destructive gillnets by offering fishermen funds to invest in more sustainable methods. Additionally, tuition money is provided through TIDE's Maya Mountain Scholarship Programme to local farmers' and fishermen's children in exchange for a pledge to cease gillnet fishing and slash-and-burn agriculture. Consequently, biodiversity has increased, with greater numbers of marine animals, including the manatee, the endangered hawksbill turtle, lobster, conch, and many vulnerable species of fish. TIDE succeeded in almost completely halting manatee killings in its area of operation and continues to monitor its success through market availability of the species.

Local livelihood benefits

Employment: Fishermen receive funds from the initiative to purchase more sustainable fishing gear, which has enabled them to continue their livelihood. Many local people are seasonally employed as rangers to patrol Payne's Creek National Park and the Port Honduras Marine Reserve. With 38 employees, TIDE is the leading employer in Toledo after the government.

Improved local opportunity: A tuition-granting project gives the next generation the prospects of a higher standard of living because of better education. TIDE continues to work on developing ecotourism to ensure benefits accrue to local communities. Additionally, TIDE is supporting the Monkey River Tour Guide Association in a new "lobster shade" project that will help improve lobster production for 23 fishermen involved in the programme.

Income generation: As a result of TIDE's re-training of local people who once practiced destructive net fishing to become fly fishing guides, yearly income among these guides increased from US\$ 4,000 (as net fishermen) to \$15,000 (as guides). TIDE Tours subcontracts with small businesses in the region to provide tour services, which improves income for these operators.

Gender equity: In the Toledo region of the Maya Mountain Marine Corridor there is a major disparity in gender participation, with male participation at 77% and female participation only 21%. TIDE's staff includes members of all four major ethnic groups in Belize, it facilitates small

tourism businesses owned and operated by women in the two protected areas' communities, and was the first organization in the region to provide scuba certification to its female employees. Currently operating with a female head of the research team, TIDE helped to establish the first successful fishermen's cooperative in Punta Gorda, helping to cement a sense of empowerment among the people.

Innovation: Using the popular sport of football, TIDE got residents of Toledo excited about conservation by hosting the first ever 'Fresh Water Cup tournament'. Teams from Toledo competed on the pitch and in their communities where they carried out various environmental projects. Cash prizes were awarded for the best environmental project and winning football team. The programme will be expanded in 2006.

Regional and National Benefits

Capacity building: TIDE trains community residents who had been hunters or destructive gill net fishermen to become stewards of the natural resources they once over-exploited. This choice of employees enhanced the initiative's credibility with the communities in which it works, and is testimony to its goals for grassroots participation. Not widely practiced in Belize, the participation of all stakeholders in managing natural resources is also innovative. Port Honduras Marine Reserve stakeholders receive training from TIDE in kayaking, birding, fly-fishing, hospitality, small business management, community surveillance and dive master training.

Policy development: TIDE assumes co-management authority of two national protected areas with the Belize government (the Port Honduras Marine Reserve and the Payne's Creek National Park) and works especially with officials from the Forestry and Fisheries departments. The government's trust in and acknowledgement of TIDE's ability to manage the park is testimony to its success in natural resource and community management.

Beneficiaries

The initiative conducts a number of training programmes to empower local communities. It provides micro-enterprise training in the skills necessary to operate small ecotourism businesses and it trains local people in fly-fishing and kayaking projects.

Partners

TIDE has links with a wide range of partners. Its NGO partners include: Ya'axche Conservation Trust (YCT), a private land trust whose property borders on land owned by TIDE (collaboration in managing neighbouring protected areas, joint ranger training and patrols, data collection, research and monitoring results); Programme for Belize, the Belize Audubon Society, and the Belize Zoo (shared

conservation goals); The Nature Conservancy (land trust arrangement); Rainforest Alliance; the Oak Foundation; AVINA; PROARCA; PRODOMA; The Caribbean Regional Environment Programme (CREP); and the Summit Foundation. TIDE's community-based partners include: the Southern Alliance for Grassroots Empowerment and the Punta Negra Sea Gals Cooperative (focus on women's issues); and the Monkey River Tour Guide Association.

LESSONS LEARNED

Environmental Management

TIDE exemplifies the capacity to work with communities to change their unsustainable resource use into practices that not only cease to destroy habitats and wildlife, but allow for their recovery, and cooperative conservation with bordering countries. The benefits have been rapid and demonstrable, setting the stage for further economic initiatives such as those related to ecotourism. The mountain to sea corridor concept is particularly noteworthy since protection of marine and freshwater habitat is highly dependent on land-based sources of ecological disturbance. Ability to draw upon the various interests of local cultures (such as the coastal Garifuna people) is an important part of the success.

Barrier Removal

Institutional: In 2001, a debt-for-nature swap to reduce approximately one-half of the debt obligation of the Government of Belize to the United States was made in exchange for the protection of 23,000 acres of vulnerable forest land in this corridor, including 16 miles of pristine Caribbean coastline. TIDE was given part of the money to purchase 8,000 acres of vulnerable forestlands and to manage approximately 11,000 acres of forestlands now under control by the Government of Belize. Community members collected biological data and were instrumental in getting the area declared a reserve, lobbying and collecting hundreds of signatures to the Minister of Fishing. This met with considerable pressure from commercial fisheries. However, the Belize government endorsed the proposal and the area was legally made into a marine reserve in January 2000. Shortly thereafter, TIDE was granted co-management authority of the reserve by the Government of Belize.

Information/knowledge: Information on more sustainable and less environmentally damaging practice is a central element of TIDE's success. Helping people to understand the multiform value of biodiversity conservation is central to the continued extension of TIDE's services to local communities. Community members and students of the University of Belize are encouraged to participate in data collection to gain experience and build their knowledge in scientific methodology.

Scaling Up

TIDE's initiatives have been so successful that it responded to the request from conservation NGOs in other countries in the region, such as Costa Rica, Honduras, and Guatemala, to bring its training programme to them. It has initiated South-South learning exchanges, hosting and sponsoring TIDE staff and community members' participation in multi-country workshops on sustainable fishing and community-based reserve management.

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Association of Palqui Producers, Bolivia

Themes

- Mainstreaming biodiversity in production landscapes and sectors
- Institutional capacity development
- Technical capacity development
- Poverty alleviation (MDG 1)

PROJECT DATA

Name: Association of Palqui Producers (APROPALQUI)

Implementing Organization: Agroforestry Germoplasm Bank – Río Abajo Community (OCB)

Location: Municipality of Cotagaita, Department of Potos, Bolivia

SGP Contribution: US\$18,712.00

Start Date: 2003



Río Abajo community members apply Palqui fruit processing techniques (Bolivia).

PROJECT DESCRIPTION

Overview

The APROPALQUI project sought to develop agroforestry activities to sustainably manage the native palqui forests for the benefit of community members.

Toward these ends, the project practices integrated management of the palqui forests, providing the community with productive fruit and seed fields. Similarly, the project developed research and training mechanisms for the preservation and management of the palqui forests and the processing of palqui by-products. Mechanisms were also established to obtain quality certification for palqui by-products and a strategy developed for the promotion of palqui by-products in larger markets.

Implementation

The project began by selecting three areas for use as productive palqui fields. Over the 50 acres of demarcated space, preservation-oriented management was used to monitor soil and the health of palqui trees. The next stage involved practical training in the conservation and management of palqui plantations and the enhancement of farmer knowledge through community workshops and practical visits. Training included by-product processing techniques, the handling and processing of equipment, the marketing and management of economic resources, workshops on medium-term evaluation techniques, and capacity building through the creation and consolidation of the Association of Palqui Producers (APROPALQUI). Further, project work included the preparation of technical brochures and bulletins for dissemination purposes, the promotion of by-products in community fairs, and a final workshop evaluating the project.

BACKGROUND

The palqui tree forests are community-owned and have traditionally been used to feed cattle. In recent times, some artisan businesses have devoted themselves to processing palqui tree byproducts, particularly palqui "coffee". However, population growth has increased at such a rapid pace that using palqui to feed cattle endangers the regeneration capacity of this forest species.

The Río Abajo community is composed of native peasant families from the Quechua-speaking indigenous peoples. In general, the community has a very low agriculture surplus. Main crops include corn (80% of the planted area), lima beans, potatoes, vegetables (12%) and fruits such as peaches, grapes, "albarillo" and prickly pear (8%). The community also raises goats, hogs, and poultry. High pressure on land has resulted in the development of a smallholding system and crop-raising along river banks. Temporary migration for work, particularly to Argentina, has been a recent source of income generation for the 31 families that compose the community.

Because the local economy is limited, the palqui forest is also used to supplement the inhabitant's diet during certain seasons, with NTFPs sold on a small scale in local fairs.

The semiarid ecosystem is fragile and subject to pressure from uncontrolled grazing and to the unsustainable use of forest resources. Loss of the vegetation layer is quickly creating soil erosion problems, reducing the production of the palqui fruit, and preventing the community from benefiting from its byproducts: tostado (roasted beans), mates (herbal teas), pito (flour), and cookies.

Environmental Benefits

The objective of the project was to increase the sustainable use of palqui forests. If the project continues to be successful, environmental benefits will have been achieved in the protection of an endangered species as well as in the maintenance of overall ecosystem health. The organizational potential of communities involved in the project were expected to mitigate the exploitation of the resource and to lead to other capacity-building benefits for the community.

Local Livelihood Benefits

Between March and July 2004, 22 quintales (approx. 812 kg) of processed palqui were sold, generating a gross income of approximately Bs.5,000. After deducting costs, this represented a net profit of approximately Bs.100 per beneficiary family, an amount with the potential to grow significantly. The community decided to reinvest profits in an effort to strengthen stockpiling facilities.

The near future promises the real possibility of providing palqui cookies for the Municipal Government's school breakfast programme. To fill the demand that would amount to 2,000 small bags per day will require increased capacity to store raw materials, authorization from the Ministry of Health, and improved packaging.

Demonstrating the financial benefits to be derived from palqui has led several families (not only those directly involved in the project) to take conservation seriously, preventing unrestricted access to cattle and reducing the unregulated felling of palqui trees. In the same vein, seed banks have been created to ensure the sustainable growth of palqui trees.

National Benefits

APROPALQUI has developed significant potential as a mechanism of community consolidation and cohesion. The organization is considered a success by other communities in the region that face similar problems to those of palqui.

The project represents by example a successful marriage of meeting community needs while protecting the environment. While the process is necessarily protracted and much depends on market access and market potential, the project's success suggests a high margin for replication.

There has been a significant impact on the income of families involved and on the conservation of palqui plantations, and a mutually beneficial relationship established between the environment and market demands.

Beneficiaries

The direct beneficiaries are the 31 participating families of the Río Abajo community (not the entire community) who

organized into APROPALQUI. Other community families and the municipal government indirectly benefit from increased economic activity and the maintenance of healthy ecosystems.

Capacity Building

The organization has a good level of cohesion, has the ability to process by-products, and has taken steps toward relationships with wider markets. Income generated from the organization, while still not proportional to investment, has the potential to grow.

Partners

The key project partners are the Río Abajo community and the APROPALQUI Association, "wearing the two hats" of implementing organization and primary beneficiary group.

The BAGAF-UATF (a technical agency) provided research, training, and project management support. In turn, the Assistant Prefecture's Office lent the physical infrastructure to install the processing plant.

LESSONS LEARNED

Environmental Management

The ideal outcome is to find conservation options that are simultaneously profitable for communities. However, efforts are needed to reconcile the two objectives as often the approaches, methodologies, and equipment used towards conservation efforts were not entirely compatible with those applied to product marketing, promotion, and advertising.

Scaling Up

While the project has yet to be replicated, there are some key elements to be considered in doing so. The project, currently in its second execution stage, demonstrates that collective construction of a rural enterprise association (composed of poor families) must have a "break-even point" between the contributions of their members (labor, local products, and eventually cash) and the revenues generated by the activity. Below this point, the only thing that will grow is the risk that the undertaking will not be sustainable.

Additionally, the implementing organization must be capable of ensuring to the greatest extent possible that the population will develop an added interest in conservation activities.

SOURCES CONSULTED

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Fruit Sector Development in Vallegrande and Moro Moro, Bolivia

Themes

- Mainstreaming biodiversity in production landscapes and sectors
- Institutional capacity development
- Technical capacity development
- Policy and legislation
- Poverty alleviation (MDG 1)

PROJECT DATA

Name: Fruit Sector Development in Vallegrande and Moro Moro

Implementing Organization: Foundation for Fruit Development (FDF)

Location: Municipalities of Vallegrande and Moro Moro, Province of Vallegrande, Department of Santa Cruz, Bolivia

SGP Contribution: None, partner organisation (COSUDE: US\$ 216,000, in two phases)

Start Date: 2001

BACKGROUND

The communities of Valle Grande and Moro Moro are composed of peasant families whose agricultural activities return only a modest surplus after meeting nutritional needs. Their main crops are corn, potato, vegetables (for their own consumption) and a few fruit trees (peaches, plums). Additionally, the communities tend to livestock (cows, goats).

Historically, these municipalities supplied products to the city of Santa Cruz. However, due to poor crop performance, decreased market prices, and new employment opportunities (and better wages) in Santa Cruz, the municipalities have experienced intense and extensive emigration to the city. The rural population was left with few possibilities and limited prospects of making a living from agriculture.

One significant constraint of the region is the limited availability of water for irrigation. Located between two temperate inter-Andean valleys, the area is beginning to erode due to the loss of the vegetation layer. However, family incomes are derived primarily from agricultural activities since the area is limited in readily harvested natural resources.

The municipalities have traditionally had the most success in producing fruit. However, the insufficient techniques by which fruit trees have been managed has reduced crop yields and lowered crop quality. Producers have not used varieties resistant to disease, have neglected to prune the



Members of fruit producing associations implement quality control system (Bolivia).

trees, indiscriminately spray pesticides, and put little effort into selection of fruit for specific markets.

PROJECT DESCRIPTION

Overview

The project sought to increase the income of producer families by improving fruit production and marketing channels. The logic runs that if people have higher incomes they will use less land and will reforest areas currently used for unsustainable annual crops.

In order to achieve these objectives, the project trained producers to improve their skills and practices in the management of orchards and post-harvesting activities, enhance the performance of the orchards, improve the quality of the fruit, and reduce pre- and post-harvest losses. Further, the project promoted in Santa Cruz the consumption of quality fruit and strengthens family production bases by renovating their orchards.

Implementation

The project worked on three different levels. On the one hand, it tackled aspects of production through field training, management techniques, production and improved plant supply systems, and building irrigation systems. Simultaneously, it also worked on marketing, channel identification, packaging improvement, and quality control processes. Finally, the organization established relationships between relevant associations and municipal governments.

While all activities developed in parallel, initial emphasis was placed on production and irrigation, later emphasis on post-harvesting and marketing. With some overlap, project stages ran the following course: institutional image and project promotion, differential diagnosis of orchard-specific problems and technical assistance, new plantations with improved irrigation systems and identified producers, and

training in post-harvest management, marketing, and implementation of technical irrigation.

Environmental Benefits

As an indirect benefit, increased fruit production has allowed for a more sustainable use of land. Fruit production has facilitated multi-strata production (associated crops) and, now that the community has more profitable options, the pressure on the land for annual crops has been reduced. The result has been a decrease in soil erosion.

Local Livelihood Benefits

The average yield has increased from 5.2 tons per hectare to 5.5 for peaches, from 5.6 to 6.4 for apples, and from 6.2 to 7.8 for plums. These trends are expected to continue over the coming years when the new trees begin producing. Losses have decreased from 25% to 15% during production cycles and from 15% to 8% percent during the post-harvest season.

Around 30 jobs have been created in the field of specialized services (pruning, spraying, fruit selection). The fruit is of better quality and recognized as such by consumers. Consequently, prestige is growing in the consumption centers and prices have increased by roughly 10%. Farmers have increased earnings from US\$516 to US\$626 and now manage their orchards with greater efficiency, making decisions and solving problems on a timely basis and returning a higher production yield.

All of the above have reduced the pressure on land for annual crops. Farmers have shifted from annual to perennial crops and, subsequently, to better management of land and water resources.

National Benefits

Increased revenues have encouraged young members of the community who had migrated to the city to return. Retired people who had moved to the city are also returning to reinvest in the communities.

Two organizations have been developed that represent the community before respective municipal governments, acting as advocates in areas of policy affecting producers. Both have made financial contributions to community activities. Access to water has improved and alliances have been created with private actors in order to market the fruit at better prices.

Beneficiaries

The direct beneficiaries are the 155 families who worked during the project as well as those hired for the jobs created by the project. Indirect beneficiaries include other fruit growers in neighboring communities who are replicating the project model.

Capacity Building

The project has been marked by a high degree of coherence between objectives, activities, and methods. One exception was that the initial proposal did not include irrigation (a critical factor in the project's success).

Partners

The project involved producers, producer associations, municipal governments and the private sector. Producers benefited from training and irrigation activities, especially and worked directly on improving the orchards. Two producer associations acted as intermediaries in the project (mostly with the municipal governments) by way of mobilizing resources for new technical assistance support.

While the municipal governments provided cash contributions for the project, their main contribution was the definition of public policies in the fruit sector.

Other partners included the Julio Terrazas Foundation, responsible for the irrigation infrastructure, and CEPROCO, the company charged with the selection, packaging and marketing of the products. Additionally, private greenhouses contributed by supplying high-quality plants.

LESSONS LEARNED

Barrier Removal

Financial contributions allowed the population to discuss and develop proposals side by side with professionals in meeting their interests and expectations and empowered the population to follow-up and evaluate (through quality control) institutional actions.

Scaling Up

The components necessary for replication seem to be a sound technical proposal, reasonable (affordable) expectations for community inputs, and demonstrably positive short-term results. If these factors are combined, the community is now able to independently sustain a technical assistance service. If the community is not required to contribute to a project, the chances of success are much lower.

SOURCES CONSULTED

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- Project execution and closing reports, submitted by FDF.
- Follow-up and evaluation reports prepared by Pro-rural.
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Apolo Pucasucho Association of Incense Producers (APIAP), Bolivia

Themes

- Catalyzing the sustainability of protected areas
- Mainstreaming biodiversity in production landscapes and sectors
- Technical capacity development
- Institutional capacity development
- Poverty alleviation (MDG 1)

PROJECT DATA

Name: Apolo Pucasucho Association of Incense Producers (APIAP)

Implementing Organization: Pucasucho Community, Central Indigenous Organization of Leco - Ahuachile Peoples (CIPLA)

Location: Pucasucho Community, Municipality of Apolo, Department of La Paz, Bolivia

SGP Contribution: US\$28,268

Start Date: 2003

BACKGROUND

In Bolivia, native indigenous peoples form the majority of the population. In addition to the Aymaras and the Quechuas, there are about 30 ethnic groups from the Guaraní branch, including the Lecos who are subject to double discrimination for being both indigenous and particularly poor.

The community of Pucasucho sits between 1,500 and 2,200 meters above sea level between mountain ranges. The landscape is one of dry grass and wet cloud forest, untouched by housing or agricultural activities where you can still find incense trees and copal.

The Leco indigenous community retains rights to incense trees of the nearby mountain chain and harvest them as its main and single source of livelihood. The community typically sells incense to middlemen who pay 50% of the actual sales price. This works out to roughly Bs. 30 (just under US\$4) per kilogram. "Rumbeador", individuals holding the right to harvest the incense, extract anywhere from 40 to 70 kilograms per year.

These inhabitants have a subsistence agriculture, which they develop at approximately 1 hectare per family. Incense extraction provides cash income for the 25 families that compose the community.

The subsistence strategy of the Pucasucho Community inhabitants yields a substantially uneven ratio in their deserved share from the incense production chain. The chain is characterized by low prices, meager profit margins, and an absence of product standardization and quality criteria.

Additionally, merchants hold a monopoly on incense. The people of Pucasucho are afforded few opportunities to produce and market other agricultural and livestock products.

PROJECT DESCRIPTION

Overview

The project seeks to develop sustainable social, ecological, and commercial mechanisms to improve the livelihoods of these families through a better positioning of the incense value chain.

Toward this end, the project implemented a sustainable system for incense production and collection, designed and implemented a marketing plan around quality control and fair trade, and organized a community-based association to market the incense.

Implementation

The project focused on three main areas: agroforestry, marketing, and organization.

Regarding agroforestry, the group endeavored to transfer knowledge on the sustainable use of forest resources and incense plantations. The group prepared a participatory management plan which included demarcation of two parcels to start plantations.

The project provided the group with external advice for market study and the preparation of the marketing plan. Integrating the product into markets has been done with the participation of the entire community, with an emphasis on product advertising and promotion.

At the organizational level, the group received support to define a set of by-laws and rules that would guide formalization within the framework of the Central Indigenous Office of the Leco-Ahuachile People (CIPLA) of a producer's organization now known as Apolo Pucasucho Association of Incense Producers (APIAP).

Environmental Benefits

Harvesting of the incense forests is now much more regulated and sustainable, ensuring biodiversity conservation and, above all, the community's long-term income.

Regardless, theft by people from outside the community continues to pose some problems and begs stronger

preventive measures. Poachers can return from one expedition with the equivalent of US\$400 in their pockets, good money in this rural area, and for many still worth the risk.

Local Livelihood Benefits

Due to APIAP efforts, the prices received for incense have nearly doubled and the community's income has, as a result, grown considerably. Average yields are 100 kilograms per family per year with some families harvesting upwards of 200 kilograms.

From profits generated, a 'Collection and Marketing Fund' is now worth Bs.15000 and is growing. This has afforded the community relative economic independence. Harvesters no longer depend on middlemen and market their product at a better price through their organization. The project will eventually generate jobs for community members in selecting and classifying the incense.

National Benefits

The association demonstrates a strong level of cohesion. Other communities harvesting incense acknowledge the project's benefits and successes and have made plans to join the community in its efforts. The strides made by the community in ensuring financial security for indigenous groups have been recognized by the Municipal Government and other agencies.

Beneficiaries

Direct beneficiaries are the 22 families that compose the Pucasucho community now organized into APIAP. Indirect beneficiaries include some 200 families of the region also harvesting incense who, as a result of APIAP's work, now sell their product to local merchants at increased prices.

The Municipal Government also benefits from taxes collected from incense sold. As a protected area, the National Madidi Park benefits from the improved management of natural resources in the area. Benefits include reduced felling of trees, better control and regulation of harvests, and monitored replanting efforts.

There must be balance between genuine commitment to conservation and sustainability and the economic importance placed on a resource such that the latter does not evolve to outweigh the former.

Barrier Removal

The project has succeeded in doubling revenues garnered from incense, and linked incense production and forest conservation as mutually related undertakings. Increased family incomes allow the population to manage the incense forests on a more sustainable basis. Formalization of local organization into APIAP was important in helping the community manage the production process.

The project is considering scaling up by involving (absorbing) other communities in the region to transfer benefits and diversify their production to copal production.

Scaling Up

The project as such has not yet been replicated. There are, however, some key criteria that would make likely successful replication. The project must begin with an economic activity traditionally handled by the population and culturally embedded. There must be sufficient demand for the resource in question such that the communities can access the markets directly. A lesson learned from this project is that, because they are exogenous to the community, networks of middlemen can be bypassed and surmounted with little conflict inside the community. Prices should be fixed such that income levels are high enough to ensure sustainability and proper stewardship.

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Follow-up and evaluation reports prepared by Pro-rural
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LESSONS LEARNED

Environmental Management

A key element of success is to orient conservation around an economic activity familiar to the population and consistent with the community's way of life. Otherwise, difficulties arise integrating the new activity into family production systems where barriers come to be seen to outweigh the benefits.

Cuero Vegetal da Amazonia Project, Brazil

Themes

- Catalyzing the sustainability of protected areas
- Mainstreaming biodiversity in production landscapes and sectors
- Financing mechanisms and private sector involvement
- Innovative technology applications
- Technical capacity development
- Poverty alleviation (MDG 1)



Innovative techniques in rubber vulcanization and marketing connect traditional rubber-tapper associations with international markets.

PROJECT DATA

Project Name: Cuero Vegetal da Amazonia
Implementing Organization: AmazonLife, Treetap®
Project Location: States of Acre and Amazonas, Brazil
Equator Prize Contribution: 2002 finalist
Ecosystem Type: Amazon, tropical rainforest
Natural Resources Conserved: Rubber trees, rainforest
Start Date: 1991

BACKGROUND

Following the building of large highways (e.g. the Belém-Brasília and the Transamazônica) and the decision made by SUDAM (Brazil's agency for the development of the Amazon) to change its fiscal incentive policies to generate and accelerate agricultural and cattle-raising activities, the Amazon has been host to large socioeconomic changes. In some cases, these events triggered the destruction of habitats and now endanger the fragility of the Amazon ecosystem.

Vegetal latex is a natural resource that has for centuries been handled sustainably by indigenous peoples and rubber-tappers in the Amazon. Today, the activity is conducted in special extractive reserves: protected areas of forest established by the Brazilian government covering approximately one percent of the Brazilian Amazon rainforest. In the Brazilian Amazon as many as 63,000 families depend on rubber-tapping for their living.

During the last decade in the states of Acre and Amazonas, rubber-treatment plants and urban merchants ceased purchasing products made by traditional rubber tappers and indigenous communities. As a result, rubber tappers were forced to deal with traveling merchants (or *regatões*), who charge high prices for industrialized products and pay low prices for rubber. This market shift eliminated the possibility of a fair price for rubber-tappers wishing to commercialize their traditional rubber production.

PROJECT DESCRIPTION

Overview

Cuero Vegetal da Amazonia is a community partnership that works with over 200 indigenous rubber-tapper families in the Brazilian Amazon to produce sheets of rubber (vulcanized through an exclusive process) to be used as a leather alternative. It sells rubber fabric sheets to large corporations and finished bags and accessories to Brazilian retail outlets, bringing added income to Amazonian communities through the sustainable use of native rubber trees.

Implementation

The project brings together three rubber-tapper associations: Associação de Produtores de Artesanato e Seringa, Associação dos Seringueiros Kaxinawá do Rio Jordão, and Associação dos Seringueiros e Agricultores da Reserva Extrativista do Alto Juruá. In 1996, the players involved in the development of the Cuero Vegetal Project founded a non-profit civil association in the state of Acre. Created to preserve and improve vegetal leather material technology, and develop new products to strengthen partnerships with federal and state governments and international companies, Cuero Vegetal de Amazonia has since been responsible for increasing the capability of extractivist producers as well as for field research in technological improvement and diversification.

A result of research efforts combining traditional knowledge with modern technologies, Treetap® is produced by Cuero Vegetal de Amazonia and, since a merger with AmazonLife in 1998, marketed and sold by AmazonLife in bags, knapsacks, briefcases, clothing, shoes, bindings, and coatings. An AmazonLife store has recently been opened near Ipanema Beach in Rio de Janeiro, creating a valuable opportunity for the promotion and marketing of AmazonLife concepts and its products.

Technology

Treetap® is a cotton fabric which is drenched in natural latex extracted from wild rubber trees. The latex is extracted from the tree trunk through two tap cuts. A minimum of two years is necessary before another tap cut can be made on the same place. The latex is filtered and “seasoned” with a special chemical composition essential for vulcanization, then collected and mixed with water and an organic vulcanization formula to strengthen the product. The cotton canvas is stretched over a frame and the mixture strained and then painted onto both sides before it is smoke-cured - a process repeated six times. The smoked laminate is vulcanized inside a simple brick kiln, where the newly made laminates are “cooked” for two days at 60 to 80 degrees centigrade. When the laminates are completely dry, they are cut, stacked, and stored until they are collected three or four times a year.

Environmental Benefits

Global: Taking advantage of the new vulcanization method has enabled the commercialization of Treetap® from two Brazilian states and the continued livelihood of traditional rubber-tappers. Because tapping does not require that the rubber tree be cut down in order for the latex to be extracted, traditional and indigenous communities can maintain the well-being of the forest ecosystem while making their living. Cuero Vegetal da Amazonia has conserved millions of hectares of Amazonian rainforest. The project demonstrates that biodiversity conservation can be mainstreamed into productive landscapes and that the creation of ecosystem markets in protected areas can contribute to their sustainable management.

Local: In a rainforest inhabited and directly used by the participants of this initiative, 55,800 hectares of land have been protected. If indirect use and protection are considered for the four larger areas in which these families live - the Mapiá Inauini National Forest (311,000 hectares), Kaxinawá Indian Lands of Rio Jordão and of Independência Wild Rubber Tree Forest (102,043 hectares), and Alto Juruá Extractivist Reserve (506,186 hectares) - 1,178,229 hectares of rainforest have been protected.

Local Livelihood Benefits

Poverty reduction: The initiative improves traditional rubber-tapper handicrafts such that the products can compete internationally. The result is a sustainable economic alternative. Most producers improved their dwellings and purchased durable, essential goods for jungle life such as engines, boats, power saws, and guns for hunting.

Employment: The development, production, and commercialization of the trademarked vegetal leather generates work and income for over 1,000 people.

Improved local opportunities: From the beginning, the initiative has acted as a bridge between large markets and what was previously an isolated and floundering traditional practice. The initiative improves local opportunity without compromising traditional techniques of forest management.

Income generation: The new vulcanized rubber product fetches higher prices. For a kilogram of Treetap® vegetal leather, rubber tappers can get R\$ 8.00 (US\$ 3.08), compared to between R\$ 0.80 (US\$ 0.31) and R\$ 1.10 (US\$ 0.42) per kg for the traditional product.

Regional and National Benefits

Demonstration effects: With its close relationship among partners, the Cuero Vegetal da Amazônia Project is a pioneer in the development of partnerships among traditional communities, the private sector, NGOs, and governments. One strength of the initiative is that it has been developed with extensive participation from all parties involved.

Capacity building: Over the years, strong institutional links have been established with the Acre state government and with federal agencies. These partnerships have enabled continued financial and institutional support, capacity building for producers and their associations, and improved working conditions in production areas.

Policy development: Two work agreements were jointly established with the federal Ministry of the Environment and with the Secretary of Amazonian Coordination. Two other projects have been initiated with the Acre state government, with the aim of transferring acquired experiences and technologies to other producer associations. Most recently, a work agreement was concluded with the Acre state agency of forests to enable certification of the vegetal leather process and production in accordance with FSC standards. Cuero Vegetal da Amazônia participated in discussions regarding the formation of a state business agency that expects to promote sustainable local enterprise in the region.

Beneficiaries

This project has allowed for the continued rubber-tapper way of life. Through the development of several production stages, benefits reach an even larger number of producers.

Partners

The initiative works cooperatively with a number of partners, including the Environmental Defense Fund, Greenpeace, Friends of the Earth (for promotion), Ministry of the Environment of Brazil (product diversification and promotion), World Wildlife Fund (for market prospecting and product certification and development), Comissão Pro Indo do Acre (for relationships with Indian communities

and development of new products), Nucleo de Cultura Indigena (relationship with Indian communities), the Ford Foundation (for certification of the product), and Fundo Brasileiro para Biodiversidade Funbio (for international market prospecting).

SOURCES CONSULTED

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Hands On, TVE Documentary Series – ITDG Case Study.
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LESSONS LEARNED

Environmental Management

The project promotes the sustainable use of forests. Communities and families have an interest in preserving the forests; cutting them down in an unsustainable manner would be detrimental to income generation and cultural survival.

Barrier Removal

Financial: The initiative critically gives producers who were previously legally unincorporated and lacking identification documents access to credit and banking systems.

Technical: Pioneering in the protection of its intellectual and technological wealth, the initiative applied for and was granted (in 2001) the patent for the technological process that improves the traditional handicraft. Registered with the Brazilian patent office, it represents a significant benchmark in the evolution of the relationship between companies and communities. AmazonLife recently received FSC Certification for Treetap® production by Associacao dos Produtores de Artesanato e Seringa (APAS), allowing AmazonLife to focus more extensively on international marketing.

Institutional: Project coordinators ensure that producers and associations are kept informed about product and market developments. The decisions of community leaders and producer association representatives are incorporated into project development at both the local and global scale.

Information/knowledge: All knowledge has been developed and has evolved through the close participation of all parties involved. Treetap® technology combines traditional knowledge with modern technologies.

Scaling Up

Patented Treetap® technology is the collective property of all parties in what is an innovative form of cooperation between private enterprise, producer associations, and NGOs. Cuero Vegetal da Amazonia also participated in formulating a Sustainable Business Project, initiated by the federal agency of the environment.

Associação Vida Verde de Amazônia (AVIVE), Brazil

Themes

- Catalyzing the sustainability of protected areas
- Mainstreaming biodiversity in production landscapes and sectors
- Financing mechanism and private sector development
- Poverty reduction (MDG 1)
- Gender equity and empowerment (MDG 3)



Soap made of sustainably harvested rosewood oil is poured into molds (Brazil).

PROJECT DATA

Project Name: Associação Vida Verde da Amazônia (AVIVE)

Implementing Organization: World Wildlife Fund, Brazil (until 2001)

Project Location: Silves Island, Amazonas, Brazil

Equator Prize Contribution: 2002 Finalist

Ecosystem Type: Island, isolated lake stream; rainforest

Natural Resources Conserved: Rosewood tree (*pau-rosa*); Andiroba (*carapa guianensis*); Copaifera tree (*copaifera officinalis*)

Start Date: 1999

extracted from the leaves and branches of trees rather than from the unsustainable harvesting of the whole (sometimes rare) trees. Using sustainable forest management, the organization supports research and ecological projects involving aromatic plants and endangered species.

Implementation

Associação Vida Verde da Amazônia (AVIVE) was born after women in Silves enrolled in a course organized by the community environmental group ASPAC (Silves Environmental and Community Preservation Association) on medicinal plants and a project with the World Wildlife Fund (WWF) on endangered and medicinal plants of Amazonia. The "Sustainable Production Community Project for Essential Oils" began with the collection of pau-rosa (rosewood) tree leaves, a soap-making workshop, demarcation of a small garden where preciosa, puxuri, cumaru, and pau-rosa were grown, and the distribution of moulds and glycerin from Sao Paulo. Since the pilot project, AVIVE has blossomed, developing, producing, and marketing a line of vegetable soaps on regional, national, and international markets.

Technology

All ingredients used in this initiative are sustainably harvested. The soaps contain no artificial ingredients or colorings and their origin is controlled and certified. Between May 1999 and March 2002, AVIVE's nursery produced 6,873 seedlings of native Amazonian species of which 5,688 were planted in areas of small-scale agriculture and private land in the municipality.

There is a higher essential oil extraction yield from the leaves and green juvenile branches of the rosewood tree (2.4%) than from the wood (1.1%). Rosewood can accordingly be cultivated like tea, with periodic harvests of green leaves and green branch tips, rather than the current destructive harvesting process. Although not an advanced technological innovation, this alternative oil extraction

BACKGROUND

Silves, a small river island in an isolated lake-strewn area some 300 km from Manaus, sits at the junction of the Urubu River and the Canaçari Lake. About 3000 people populate the island and another 3000 live in the surrounding communities. Silves Island is one of the oldest urban settlements in the state of Amazonas.

The region is diverse in wildlife and houses important populations of large birds, fish, and aquatic mammals as well as impressive flora. Local economic activity is based primarily on fishing, farming, and cattle, with cassava, pineapple, rice, sugarcane, beans, jute, maize, and watermelon as some common products. Even so, unemployment in Silves is high and unsustainable resource extraction is threatening local biodiversity. Yet, despite a lack of efficient transportation to the region, Silves has become a popular ecotourism site with its unique ecology and numerous grassroots conservation efforts.

PROJECT DESCRIPTION

Overview

Associação Vida Verde da Amazônia (AVIVE) is a local women's NGO applying traditional knowledge to the craft production of essential oil and glycerin products which are marketed as cosmetics, soaps, and perfumes to tourists and for wider distribution. The essences are sustainably

technique proves not only more ecologically friendly but yields more essential oil.

Environmental Benefits

Global: Rosewood oil is a primary fixative in perfumes in great demand nationally and internationally. It is produced principally by the Brazilian states of Amazonas and Pará. Exports have decreased considerably during the last few decades due to intensive overexploitation of this species without the replanting being obliged by law. By using sustainable extractive techniques that do not require the harvesting of the tree, AVIVE's work protects a tree on the world's endangered species list.

Local: AVIVE is constantly developing and improving techniques for the sustainable extraction of *pau-rosa* and other medicinal and aromatic plant species. While *pau-rosa* is on the list of endangered species and there are policies regulating its use, there is as of yet no proper monitoring and it is still illegally cut. Through its sustainable harvesting of this species, AVIVE is helping to ensure its survival. It is now planning the development of a three-hectare project to sustainably manage rosewood and other native species in a small area in which there still remain some (at least 18) primary trees. In total, between 1952 and 1974, 10,000 were cut in the region leading to the near extinction of the species. AVIVE has developed a detailed plan to the year 2007 that includes certification, capacity building, and forest inventories.

Local Livelihood Benefits

Employment: AVIVE employs 26 women ranging between the ages of 16 and 70 from the municipality of Silves; the great majority have children and had no jobs before the project began. Five male local healers are partners in the group and other young men volunteer as guides and boatmen in field research and in oil distillation.

Improved local opportunities: The main buyers from AVIVE are tourists and the hotel in Silves. However, international sales have begun and are rising. The initiative develops, produces, and markets vegetable soaps for regional, national, and international markets. Given the growing market for "natural" products and AVIVE's well-developed relationship with industry, the association's line of soaps and perfume from the Amazon has the potential formula for international success. AVIVE additionally markets and sells local crafts such as fiber necklaces, local ceramics, baskets, and small wood products from six other communities.

Income generation: In 2001, 7,200 units of soap were sold in Brazilian and international markets at an average price of R\$2.00. Twenty percent of revenues were channeled to participants and the remaining amount was reinvested in primary resources, labels, and AVIVE's fixed costs. Between January and July 2002, AVIVE made and sold 1,800 units of

soap, increased the price to R\$5.00 each, and took in a total revenue of R\$5,400.

Gender equity: Women's work with AVIVE frees them from some of their financial dependence on their husbands. Additionally, the opportunity to work in and run a small business benefits the women by improving their self-esteem and community spirit, by broadening their horizons, and allowing them to meet new people and to acquire new skills. The project accords monetary value to their traditional knowledge, their labour, and their identity as Amazonian women.

Regional and National Benefits

Demonstration effects: AVIVE has evolved as a reference for sustainable businesses in the Amazon. It has significant potential for economic development and local poverty alleviation, the empowerment of women, and the protection of biodiversity. It demonstrates a clear alternative to continuing with destructive practices while sustaining the production of valuable oil from local forest species. AVIVE's activities have promising private-sector relationships and interesting plans for creating a reserve. While still in its early stages, AVIVE demonstrates the strength of social cohesion in decision-making.

Capacity building: The women of AVIVE and the community in general have received capacity-building courses in computer basics, English, sales, marketing, association organization, natural agriculture, and ceramics. A total of 140 women have taken part in these workshops since 1999. The association mobilized to create 'Co-operative of Women for the Production of Natural Products' from the Amazon (COPRONAT) in July 2002, a for-profit commercial enterprise for female entrepreneurs.

Policy development: Since soaps are considered cosmetics in Brazil and internationally, authorization from the Ministry of Health is required. AVIVE is in the process of legalizing its commercial products with the Ministry. Official government certification is often accompanied by increased marketability and, by extension, increased profits.

Beneficiaries

As an initiative devoted to improving opportunities for women in the community and recognizing their value, AVIVE is enhancing gender equality and social inclusion. The initiative has been beneficial for the women involved in AVIVE, their families, and the communities in which they live.

Partners

The initiative has a number of partners that contribute in varying capacities. Itacoatiara, a local certified wood company, is used to recuperate timber residues of aromatic species. SEBRAE, the local branch of the Brazilian business development agency, provide support through

training, seminars, exposure and promotion via the media, and marketing. The local branch of the National Amazonian Research Institute (INPA) and the Amazonian Technology Institute (UTAM) provide scientific research and technical orientation for "Project for the Conservation and Environmental Management of Forest Species Threatened with Extinction." The Association of Silves for Environmental and Cultural Preservation (ASPAC) contributes environmental education campaigns throughout the region and promotes ecotourism.

LESSONS LEARNED

Environmental Management

AVIVE's method of protecting fragile species by extracting essences from leaves and branches is innovative in capturing the growing market for natural products and in its capacity-building for women. The initiative demonstrates the profitability of, and market for, sustainable extraction. By recognizing the profitability of Non-Timber Forest Products (NTFPs), essential products that trees provide in addition to timber, AVIVE offers an alternative means of income generation while conserving forest biodiversity.

Barrier Removal

Financial: The initiative is strongly supported by its clients, partners, and the community. Companies in Germany, Japan, Italy, and England have expressed an interest in commercializing the products. AVIVE also plans to increase its profits through another project to produce the soap base, which until now had to be purchased at a high cost, from readily available plant sources.

Institutional: AVIVE still produces on a small scale since the license from the Ministry of Health is pending. AVIVE received funding in 2002 from WWF Brazil to help cover costs of the legalization process. The process requires not only the involvement of a recognized pharmacist, quality controls, and registration but also overcoming the sanitary department's disbelief that a women's group could succeed.

Information/knowledge: Many people in Silves retain valuable knowledge concerning traditional medicines and are using this knowledge in selecting plants for soaps, harvesting them sustainably from the forest, growing them in the garden, and extracting the essences from plant materials. Through its environmental education activities and its support of traditional ecological knowledge, AVIVE is helping to preserve traditional and popular knowledge of regional Amazonian plants.

Scaling Up

Since the beginning of 2002, the initiative has been working with its partners to develop a perfume made entirely from Amazonian products. The initiative is highly transferable in

similar ecosystems and socioeconomic conditions. The AVIVE store not only sells its own products but is a sales outlet for products manufactured by women from six different communities. AVIVE's successful approach has been disseminated in municipalities in São Pedro, Cristo Rei, Santa Luzia do Sanabani and in Igarapé-Açu where a total of 39 women are creating ceramics and fibre-based products (for soap packaging) to bolster family income. AVIVE's work has grown and replicated itself throughout the municipality and has the potential to serve as a prototype for communities harvesting in similar ecosystems.

SOURCES CONSULTED

AVIVE Equator Prize Nomination, 2002 – 259,
www.equatorinitiative.net
Hands On, TVE Documentary Series – Dollars to Scents, ITDG
Case Study. <http://www.tve.org/ho/doc.cfm?aid=886>

Bolsa Amazonia, Brazil

Themes

- Catalyzing the sustainability of protected areas
- Mainstreaming biodiversity in production landscapes and sectors
- Financing mechanism and private sector involvement
- Poverty alleviation (MDG 1)
- Gender equity and empowerment (MDG 3)



PROJECT DATA

Project Name: Bolsa Amazonia

Implementing Organization: Nucleus of Action for Sustainable Development (POEMAR), the Federal University of Para, the Department of Environment, Pobreza e Meio Ambiente na Amazônia-Poverty and Environment in the Amazon (POEMA)

Project Location: Pará, Amapá, Rondonia, and Acre, Brazil

Equator Prize award: 2002 finalist

Ecosystem Type: Rainforest

Natural Resources Conserved: forests, minerals, oil, coconut fiber, banana flour, honey, palm hearts, Brazil nuts, tropical fruits, and acai palm

Start Date: 1992

Bolsa Amazonia connects local production with domestic and international markets (Brazil).

recyclable products, and shifts in consumer behaviour in developed and developing countries. Although the Amazon region is rich in NTFPs, their viability is limited by a lack of research into basic harvesting, markets, and marketing techniques.

PROJECT DESCRIPTION

Overview

Bolsa Amazonia is a regional project dedicated to the development of small-scale enterprises in rural forest communities of Amazonia that link strategies to meet basic needs and food security with the sound use of natural resources in forest regions. The initiative provides crucial links to foreign markets while building capacity through training in sustainable agriculture and agroindustrialization.

Implementation

Bolsa Amazonia takes advantage of interest in socially and environmentally responsible consumption by bringing specialized local produce from the Amazon to international markets and sustainable economic returns to local communities by integrating them into larger production chains and trade exchanges on an equitable basis. In the regional context, the initiative promotes South-South cooperation through the development of a pan-Amazonian, decentralized regional programme that allows common issues to be addressed in the manner most appropriate to each country. Bolsa Amazonia has offices in Bolivia, Colombia, and Ecuador, in four Brazilian States (Pará, Amapá, Rondonia, and Acre), and several established abroad to promote its products. Additionally, Bolsa Amazonia is developing a network of civil society organizations dedicated to the same principles of environmental conservation and poverty alleviation at the local level.

BACKGROUND

The Amazon has experienced large socioeconomic changes over the past several decades, stemming largely from highway construction and fiscal incentives to generate and speed up agricultural and cattle-raising activities. These shifts have been accompanied by the destruction of habitats, significantly damaging to the Amazon ecosystem. Natural resources have been depleted through the unsustainable extraction and export of raw materials (including logging, mining, and oil drilling) for short-term economic returns.

The forest communities of the Amazon represent the poorest fringes of the population. They often live in isolation as family units in remote areas that lack the most basic services. They rely primarily on the forest's raw materials for subsistence. Non-timber forest products (NTFPs) provide sustainable alternatives to deforestation and cattle production and offer an important source of livelihood, income, medicine, food, and fibre for local people. The sustainable use of these biological resources can generate tangible economic benefits while supporting nature conservation. One of the ways to achieve this is to take advantage of the new investment and trade opportunities emerging for biodiversity-based products and services. Interest in these products is on the rise due to the emerging biotechnology industry, industry's search for

Technology

Bolsa Amazonia manages agroforestry systems called "agriculture in layers," which integrate indigenous knowledge with agronomic techniques in order to transition from monocrop and slash-and-burn agriculture to mixed-crop farming. It is particularly effective in degraded and deforested areas.

Environmental Benefits

Global: "Agriculture in layers" promotes crop diversification and year-long harvesting, mitigating further land-clearing. In forested areas with high biodiversity, sustainable resource management techniques allow the use of natural resources with minimum environmental impact, especially through the extraction and collection of NTFPs.

Local: The local economy depends on the use and sale of palm hearts, which have been previously harvested by felling trees. As an alternative, Bolsa Amazonia's supply of açai pulp and palm hearts uses sustainable management based on natural regeneration, thus aiding in its conservation.

Local Livelihood Benefits

Poverty reduction: Bolsa Amazonia's partners are rural communities of traditional forest dwellers, subsistence farmers, and *riberinhos*. Through the creation of small-to-medium-scale projects, the production of value-added products, and successful commercialization, thousands of families have benefited from Bolsa Amazonia's employment opportunities. In addition to assisting with productive projects, basic needs are met through water treatment and energy generation projects implemented with green technologies.

Food production: The projects also strive to achieve a balance of food security with cash crops; an objective realized through agroforestry models that facilitate crop diversification.

Employment: In one of the most degraded and poor areas of the state of Pará, 16 rural communities are involved in the cultivation (through sustainable agriculture and agroforestry) and processing of tropical fruits (banana flour, dried fruits). In another region, the açai palm is sustainably managed for fruit processing with the participation of 17 rural communities organized into a producers' association that owns a modern fruit-processing plant.

Improved local opportunities: A coconut-fibre production chain is located on a unique island ecosystem and employs approximately 4,000 people in the various steps of managed fruit collection, fibre extraction, transformation, and industrial production, providing refined products for a number of industries. Of note, the initiative supplies car seats and other technical pieces for DaimlerChrysler Brazil

in addition to gardening, agriculture, construction, and decoration products for other markets.

Savings/income generation: In the case of a fruit pulp industry, 17 communities (30 to 40 families each) formed a cooperative where leaders were elected and the industry was the property of the communities. Communities have occasionally become small companies to commercialize their products. As a consequence of legalization, communities previously marginalized from the credit world can receive bank credit based on the success of their projects.

Gender equity: The majority of workers in Bolsa Amazonia are women and their participation in decisions is guaranteed. Sales have taken place nationally and internationally with all benefits returning to the rural associations of producers. Income from the community projects stays in the community.

Regional and National Benefits

Demonstration effects: The scale of this initiative is broad. Tapping into global markets for local produce while ensuring that rural communities benefit from the rewards is its major strength. Additionally, it ensures the long-term viability of providing these goods to markets through the conservation and regeneration of degraded areas of the Amazon. By focusing on a range of products in both domestic and international markets, relatively steady income flow is possible. By establishing a local network involving several major Amazonian countries, the impact of the initiative should eventually be widespread in the communities and local ecosystems of this major tropical forest region.

Capacity building: Bolsa Amazonia's primary objective and activity is capacity building, targeting rural producers, producer associations, technicians, community leaders, and professional staff on the themes of sustainable agriculture, agroindustrialization, market access, and marketing. Training activities empower local decision-makers by supporting enterprise development, organizing producers, improving local production capacity, informing on the benefits and necessity of compliance with higher sanitary and quality standards, assisting with development of new production lines, and providing an information bridge between producers and buyers of sustainable Amazonian products.

Policy development: Close partnerships between public institutions, NGOs, and private enterprises is regarded as an effective way of influencing public policies, presenting new models for credit and investment programmes, and creating opportunities for foreign-direct investment in sustainable development initiatives. The Bolsa Amazonia Trustee Council relies on support from the state governments of Acre, Amapá, and Pará, all of which have policies oriented toward sustainable development. Their

continued involvement can aid in the replication of better public policies on a broader scale.

Beneficiaries

Local people and communities drive this initiative. Bolsa Amazonia assists by providing the communities with training, market information. Specific beneficiaries include the traditional forest dwellers, subsistence farmers, and *ribeirinhos*.

Partners

Bolsa Amazonia has partnerships with the United Nations Conference for Trade and Development (UNCTAD), the BIOTRADE Initiative, the European Commission (Tropical Forests Division), and DaimlerChrysler. In each country, there is a national representative of Bolsa Amazonia and regional partnerships. At the local level, in each country there is a pool of local representatives.

LESSONS LEARNED

Environmental Management

Bolsa Amazonia showcases and promotes the coupling of the sustainable use of Amazonian natural resources and poverty reduction among indigenous people. Products are promoted that give producers and processors improved incomes and consumers a product that is environmentally friendly. Combining local knowledge of the forest, simple management techniques, and appropriate technologies for the regeneration of degraded areas, further destruction of forested areas is being avoided. Making information available and accessible between public institutions, NGOs, and private enterprise is crucial to Bolsa Amazonia's success.

Barrier Removal

Technical: Bolsa Amazonia coordinates an online marketing information system called *Sistema de Informação Mercadológica da Bolsa Amazônia* (SIMBA). Operating as a large marketplace of producers and buyers, SIMBA functions as an exhaustive database of products and companies.

Information/knowledge: Bolsa Amazonia's innovation stems from its development of marketing information – building an information bridge between the producers and the buyers for sustainable Amazonian products. It uses information technology tools to facilitate interaction between commercial actors, easing the efficient two-way flow of market-related information.

Scaling Up

Through its commercialization activities, Bolsa Amazonia improved knowledge of market demands and coordinated expertise on the commercialization of sustainable products. The result is informed production and training capable of more effectively designing market-oriented products. With its representation offices in four Amazonian countries and four Brazilian States, Bolsa Amazonia is well positioned to transfer experience.

SOURCES CONSULTED

Bolsa Amazonia Equator Prize Nomination, 2002 – 227, www.equatorinitiative.net
Hands On, TVE Documentary Series – Coconuts to Cars, ITDG Case Study. <http://www.tve.org/ho/doc.cfm?aid=947>

Cananéia Oyster Cooperative, Brazil

Themes

- Catalyzing the sustainability of protected areas
- Mainstreaming biodiversity in production landscapes and sectors
- Technical capacity development
- Policy and legislation
- Poverty alleviation (MDG 1)
- Health (MDGs 4-6)

PROJECT DATA

Name: Cooperativa Dos Produtores De Ostras De Cananéia

Implementing Organization: Extractive Reserve of Mandira, Cooperative of Oyster Producers of Cananéia

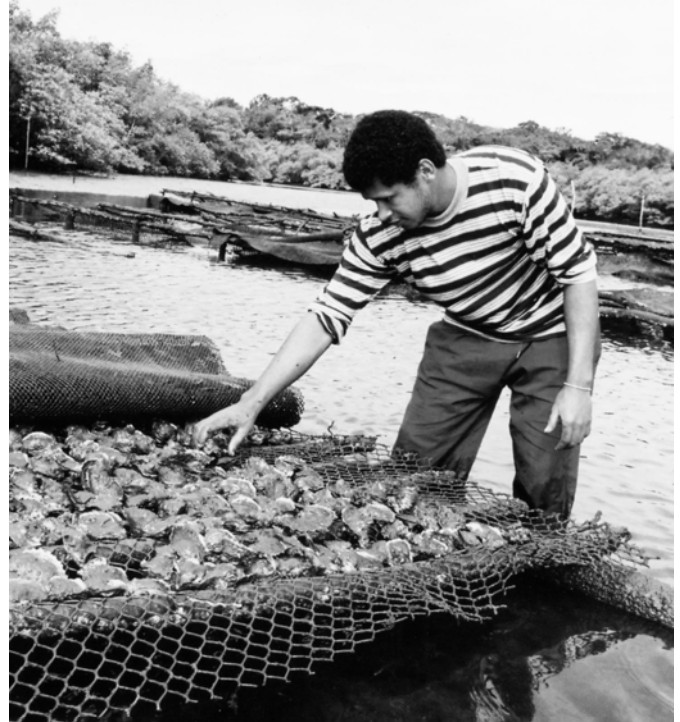
Location: Cananéia, Brazil

Equator Prize award: 2002 finalist

Ecosystem Type: Wetland forest; mangrove

Natural Resources Conserved: Oysters, mangrove resources

Start Date: 1994



Oysters undergo a process of fattening and cleaning to meet with government regulation and market demand (Brazil)

BACKGROUND

For nearly 30 years, oysters in the mangroves of Cananéia, Brazil have been commercially exploited. Oysters are a luxury item, desired for their high nutrient content and purported aphrodisiac properties. Demand for, and extraction of, oysters has risen dramatically since the 1970s, leading to a dramatic fall in the stock of oysters. Oyster pickers did not benefit from this exploitation and lost profits to middlemen who dictated prices. Demand for the oysters and their harvest increased such that it exceeded the capacity of the oyster beds and mangroves to regenerate.

Coastal development has caused the world's mangrove forests, which serve as nurseries for fish and shellfish, to shrink by 25% in the last 20 years. Average monthly oyster production in the region has doubled since the 1970s, although oyster pickers have seen little financial return due to labor exploitation in times of high unemployment.

The Mandira Neighborhood Extractive Reserve is the nucleus of this initiative. The traditional population in the community is comprised of Caiçara (the coastal region population) and Quilombolas (descendants of African slaves). The community lives in Cananéia, in the Ribeira River Valley, on the southern shores of the state of São Paulo. Until the 1960s, descendants of the first Mandira community lived off agriculture and plant harvests. Many have since migrated elsewhere; those who stayed turning to oyster harvesting to make their living.

The Cananéia lagoon estuarine complex is considered by the IUCN to be the third most productive estuary in the world in terms of primary productivity. It is the basis for a complex food chain. The mangroves are vital for the maintenance of water quality required by coral reefs and other marine ecosystems.

PROJECT DESCRIPTION

Overview

A partnership between a traditional community and a cooperative of oyster extractors, this initiative manages an extractive reserve of 1200 hectares of protected mangroves. The cooperative develops oyster nurseries and growing methods, treats harvested oysters in accordance with health regulations, engages in mangrove management techniques that promote the growth of oysters, and develops criteria for a green seal to market oysters at a premium.

Implementation

It was concluded that the best way to add value to mangrove oysters was to ensure they were adequately purged of potentially harmful substances. Federal health inspection certification can more than double the amount of money paid to the harvester.

Partners have and continue to provide financial, political, and technical support. The municipality donated the land for the cleaning station, while a government department

helped conduct research into the natural stock of oysters in the mangroves and alternative techniques to straightforward extraction. Market research was conducted into prices, competition, trends, and consumption. A business plan was then developed highlighting the importance of and profitability in conserving the reserve.

The community built a cleaning station where all oyster pickers in the region joined together to form the Cananéia Cooperative of Oyster Producers - the first extractive reservation in the state of São Paulo. The cooperative operates as a catalyst to bring order and consistency to the commercial exploration of Cananéia oysters and to establish rigorous ecological controls to ensure production sustainability. The initiative allows for experimental and innovative environmental management plans and for targeted actions related to cultural, educational, and health issues. The sanitary conditions and the sustainable way in which the oysters are harvested are used as means to differentiate and promote the cooperative's product. The cooperative now sells most of its oysters through retail outlets in São Paulo.

Technology

The cooperative effectively employs simple technological innovation. In addition to applying sustainable fattening techniques, it implements a process to clean the oysters to meet health department requirements. A cleaning station uses ultraviolet treatment to clean the water, making the oysters legal for sale. The cooperative also created a nursery so that, in the event that wild oyster gathering is prohibited in the future, the oyster pickers will be able to continue sales.

Environmental Benefits:

Global: The estuary and lagoon complex of Iguape, Cananéia, and Paranaguá was declared a World Heritage Site by UNESCO and is part of the Atlantic Rain Forest Biosphere Reserve due to its ecological importance as a habitat for diverse sea species. Increased prosperity has led to a decrease in the unsustainable extraction of other natural resources.

Local: Laws now protect oysters against unsustainable harvesting and allow for more effective conservation efforts. Strict controls over extraction methods have been put in place, with the community taking a lead role in monitoring compliance. Illegal exploitation of oysters from the swamps and pressure to collect unsustainably have decreased because of the higher prices now available for sustainably managed oysters on the market. Because of the resulting increase in family income, members of the cooperative are committed to obeying environmental legislation. It is prohibited to harvest oysters during December to February when oysters reproduce and before they reach a minimum size of 5 cm, often the

period when demand is greatest. Before the co-operative was formed, it was common for oyster pickers to harvest oysters during the reproduction period.

Local Livelihood Benefits:

Poverty reduction: Over 100 families have tripled their income by creating an association to manage the extractive reserve and a cooperative to market the oysters. The marginalization of middlemen was crucial in this shift. Environmentally friendly product differentiation and the introduction of mangrove management techniques that promote the full growth of oysters serve to boost market prices and decrease collection efforts.

Employment: The initiative helps improve the quality of life of traditional oyster extractors in Cananéia through increased job opportunities. Current membership stands at 70 people from some 10 communities.

Income generation: When the Mandira community began harvesting oysters, commercialization was dominated by intermediaries who dictated the price and the quantity to be collected. Before the cooperative, the average price of a dozen oysters was R\$0.50. Since the establishment of the cooperative, the average price has increased to R\$1.70.

Social inclusion: The cooperative engages participants in the decision-making process, facilitates the division of responsibilities, and promotes social returns to the community. Members participate in courses on cooperative management, association organization, and the construction of collective equipment and infrastructure.

Regional and National Benefits

Demonstration effects: The initiative demonstrates the possibility for projects mutually beneficial in income generation, health promotion, and biodiversity conservation by way of cooperation between communities and municipal and state agencies maintaining local control and management.

Capacity building: Local participation is of central importance to the success of this initiative. Extractors participate in decision-making processes and the promotional activities of the organization within and between communities. Cooperative members were involved with the building of the depuration station and currently manage its operation; association headquarters were built with the participation of the community; and the collectors are involved in the process of determining criteria for green certification.

Policy development: The São Paulo State Ministry of the Environment was instrumental in creating the right conditions for this initiative, specifically through the establishment of an extractive reserve in 1989. It was present at discussions about the framework for oyster exploration

in Cananéia. It similarly coordinates the exploration for oysters in the mangrove of the estuary of Cananéia and provides technical support in the project's elaboration, fundraising, promotion, and financial and political support. The state Fisheries Institute assists with programme coordination and research on natural stocks of oysters in the mangrove and in the dissemination of environmental management techniques. The initiative has overcome numerous hurdles with the help of the state government and is building on its successes through continued research and exploration.

Beneficiaries

The community is empowered by and benefits from its initiative in forming a community association and oyster cooperative capable of sustaining profits from oyster harvesting in the face of increasingly stringent environmental and conservation laws. The community benefits financially from the conservation of a previously over-harvested, exploited resource and from a larger, more productive ecosystem.

Partners

Initiative partners include the Forest Foundation of the State of São Paulo (state government), the Fisheries Institute (state government), and the University of São Paulo (financial and technical support, social research). Financing has come from local NGOs, federal and municipal governments, the private sector (Shell), Visao Mundial (an international NGO), and Fundo Brasileiro para a Biodiversidade.

90 percent of the community's livelihood earnings. Oysters are sold to large Sao Paulo state and city markets. Extraction methods, sanitary measures, quality controls, official registration, and the Agricultural Ministry's "seal of approval" all add value to the product and ensure its ability to sell.

Institutional: The participation of traditional oyster collectors at all levels and stages of the initiative's development has brought autonomy to collectors in the management of the enterprise. The Federal Inspection Service (SIF) certification, awarded by the Ministry of Agriculture, ensures that the product is free from disease capable of human contamination. The cooperative's oysters have been awarded a green stamp, denoting a high-quality production process and subsequently increasing money paid to the harvester.

Information/knowledge: Research into natural stocks, collection and commercialization establishes maximum collection capacities and ensures the sustainability of the activity. Members looked for alternatives to straightforward extraction, defined parameters to control harvesting of oysters and, by extension, ensured a long-term, stable stock of oysters.

Scaling Up

The initiative is highly transferable to other extractive reserves in wetlands. The organization of oyster collectors has stimulated other community initiatives, such as the women's seamstress organization in the Mandira community.

LESSONS LEARNED

Environmental Management

The initiative demonstrates the profitability of using sustainable extraction methods in a sensitive wetland forest area. Also exemplary are the initiative's close and apparently harmonious links to the state government. Consequentially, the government has been forthcoming with supportive policies and technical aid. The community's willingness to develop appropriate institutions has helped to maintain local control of natural resource management and to significantly enhance economic return through the development of innovative technology and marketing arrangements.

Barrier Removal

Financial: The Mandira community was legally banned from traditional farming, hunting, and gathering practices in 1970 when the Cananéia region was transformed into an Area for Environmental Protection. The Mandira community had to relinquish their subsistence agriculture and hunting livelihoods. This barrier was overcome by a shift to oyster harvesting, a trade that currently constitutes

SOURCES CONSULTED

Cananéia Oyster Cooperative Equator Prize Nomination, 2002 – 267, www.equatorinitiative.net
Hands On, TVE Documentary Series – Oyster Catch, ITDG Case Study. <http://www.tve.org/ho/doc.cfm?aid=1357>

Grassroots Organizations Against Desertification, Chile

Themes

- Mainstreaming biodiversity in production landscapes and sectors
- Linkages with other environmental goals
- Technical capacity development
- Innovative technology applications
- Poverty alleviation (MDG 1)

PROJECT DATA

Project Name: Grassroots Organizations Against Desertification

Implementing Organization: Pichasca Neighbors' Board

Project Location: Pichasca, Limarí Valley, Region IV, Chile

SGP Contribution: US\$41,806.00

Start Date: 2001

BACKGROUND

In the north of Chile, inadequate management of a growing goat population, a high rate of wood resource exploitation, and drought have all aggravated desertification. In the Limarí Valley, desertification is exacerbated by extreme poverty and the isolation of the shepherd peasants who populate the area.

Government action has not been sufficient in reversing this negative feedback loop. As a result, local groups have themselves taken on the task of searching for alternatives to the overexploitation of their natural resources to meet their needs. Wood consumption and the unsustainable exploitation of the goat population for subsistence purposes were the two main contributors to this vicious circle of desertification and poverty which the project addressed.

PROJECT DESCRIPTION

Summary

The project aimed to promote and disseminate community actions favorable to stopping and reversing desertification, the search for sustainable electricity sources, the development of a sustainable production models, and ways of innovating and enhancing the skill-set of Pichasca inhabitants. As an ambitious target, the project sought to mitigate the Limarí Valley desertification process and provide a working model to address the government's 'National Action Plan to Struggle Against Desertification'.

Implementation

Training activities have included several workshops on the causes of desertification as well as more specific workshops



Solar stoves and clay furnaces serve as alternative technologies in combating desertification (Chile).

dealing with solar-driven stoves, reforestation with native species, and sustainable goat-raising. The community reforested seven hectares with native tree species and designed and built a demo module to demonstrate good goat-raising practices.

Funds were invested to build 94 solar furnaces, a similar number of efficient clay furnaces, and 10 solar fruit dryers. The SGP award to the project provided it with sufficient resources to produce additional solar and clay furnaces. In cooperation with other peasant communities in the country, the community organized the "National Encounter Against Desertification", which was held over three days in Pichasca Valley. The communities analyzed the situation in Pichasca and reviewed strategies adopted elsewhere in the country, providing ample opportunity for communities in different agro-ecological zones to compare and contrast the driving causes and responses to desertification in different areas.

Environmental Benefits

There is no firm quantitative analysis as to recent changes in the community's wood consumption habits. Nevertheless, based on field observations and surveys carried out, and an analysis workshop recently held with Pichasca residents and neighbors, the project review noted significant positive changes in the consumption habits of the families living throughout the valley.

Local Livelihood Benefits

In particular, the project enabled 94 families to have solar stoves in their houses, which served as a demonstration model for other communities across a much broader desertified area. This served to significantly reduce wood consumption and empowered women who no longer had to walk long distances in search of wood.

Several solar furnaces were built in public spaces for community use. This shared collective focus facilitated recovery of some of the tradition of regular town parties and festivities, creating better social capital and improved relations among the town's inhabitants.

The 'National Encounter Against Desertification' served to disseminate the programme among the inhabitants of the valley and reduced feelings of isolation. Community leaders emerged ready to undertake new challenges after completion of the project.

Beneficiaries

The peasant community (mostly pastoralists) benefited from workshops, events, reforestation in community spaces, and the solar and clay stoves installed in public places. Whilst over 350 people now have direct access to these appliances at home, other neighboring communities are examining the possibility of building similar furnaces.

Capacity Building

A recent workshop illustrated the value and inclusion of female know-how, skills and perspectives and the potential for community leaders to have their voices heard by the local government authorities. As a result, community inhabitants have been currently discussing the possibility of expanding and diversifying their efforts to include community-based ecotourism as part of their local business plan.

Partners

The project counted on external technical assistance from the NGO 'Canelo de Nos'. Internally, it relied on the support of the local Liceo Agrícola (Agricultural School) and the Municipal Education Department. The project involved communities and local organizations, working mainly with peasant women and their families, giving different groups within the community ample opportunity to participate in the decision-making process.

LESSONS LEARNED

Environmental Management

Issues as complex as desertification need to be put into simple language so that communities can understand the causes and the links between the underlying problems and the community's most pressing needs. In the project, the issue of desertification was connected with urgent concerns of importance to day-to-day community life. Lower cost and more efficient solar and clay furnaces were arguments used to facilitate changes in practice and to open further dialogue on desertification.

Scaling Up

Based on the pilot experience in the Pichasca Valley, the SGP project has potential for replication in other places

with desertification issues across the northern region of Chile, one of the driest in the world.

SOURCES CONSULTED

<http://sgp.undp.org/index.cfm?Module=Projects&Page=ShowProject&ProjectID=4751>

Lafkenches Coastline Management, Chile

Themes

- Catalyzing the sustainability of protected areas
- Mainstreaming biodiversity in production landscapes and sectors
- Technical capacity development
- Awareness, culture and practices
- Poverty alleviation (MDG 1)
- Education (MDG 2)



Greenhouse food and plant production is complemented by courses in the sustainable management of coastal ecosystems (Chile).

PROJECT DATA

Project Name: Lafkenches Coastline Management
Implementing Organization: Newen Pu Lafkenche Indigenous Association
Project Location: Town of Carahue, Araucanía Region, Chile
SGP Contribution: US\$33,446.00
Start Date: 2001

Implementation

In the first stage of the project, workshops were designed and taught in soil recovery, forestry, and activities regarding the sustainable management of marine resources. The Newen Pu Lafkenche Association was provided with a new building to operate from where the courses were taught.

BACKGROUND

The Lafkenches, a Mapuche coastline community, live in conditions of social and economic deprivation. With a growth in democratic institutions in the country, the Chilean Government implemented an 'Indigenous Development Policy', which has to date shown some progress. However, adverse poverty pushes communities to overexploit their natural resources, make their livelihoods unsustainable and jeopardize their survival. Native forests and soil quality are degraded by felling and erosion.

Poverty, environmental degradation and unsustainable livelihoods are serious problems facing the Lafkenche community. These problems have multiple sources, including a lack of information and resources, responses that neglect local culture, limited access to public services and utilities, and a lack of local proposals for territorial development plans capable of being implemented by the Lafkenche community itself.

PROJECT DESCRIPTION

Summary

The project aimed to build a participatory form of protected area management geared toward biodiversity conservation through cultural activities. The project included active community participation strategies, diagnosis of the environmental situation, planning, implementation, management, and evaluation.

The second stage involved the construction of 24 greenhouses and the design of more courses in the sustainable management of natural resources. The third stage dealt further with the management of marine resources and the dissemination of experience. Dissemination was largely achieved by broadcasting from a local radio station in the urban municipality of Carahue. Broadcasting costs were covered through advertising partnerships arranged by the Lafkenches. Another means of dissemination took the form of a ritual ceremony of importance to the Mapuches called a "gñatun". The impact on the community from the event was extremely positive.

The final stage consisted of deepening lobbying efforts with the appropriate authorities and the creation of a State-Lafkenche Bilateral Inter-Cultural Negotiation Commission.

Environmental Benefits

The most relevant environmental impact has been the sustainable production of fruit, vegetables and other products for consumption by the community.

Local Livelihood Benefits

The project significantly improved the quality of life of over 40 families that now have greenhouses to produce, on a sustainable basis, foods, vegetables and other crops they need for their own consumption. The cultural heritage of the Lafkenche was recovered through religious rites and events promoted by the programme. The cultural

traditions are further strengthened by weekly broadcasts over the local radio. The Lafkenche community now has a community gathering room that benefits all its members.

National Benefits

The main feature of the agreement involved an agreement entered into with Government authorities to create a Bilateral Negotiation Commission regarding public investment in the sector. This was the first time an agreement of this nature was enacted. Commitments included the construction of a rural medical station, improvement of the local school, donation of diving suits, environmental training for children, repair of access roads, construction of a sewer system, several for-profit agricultural and livestock projects, soil-recovery programmes, and an inter-cultural health programme.

Beneficiaries

The Lafkenche community, 967 persons from eight indigenous communities, comprising of the main beneficiary. The indigenous culture and community organization were strengthened and families were provided with greenhouses to grow produce. The community gathering facility similarly benefits the entire Lafkenche community. Local leaders have enhanced their management skills, their ability to negotiate with the authorities, and have been affirmed in their indigenous identification.

Capacity Building

The general objective of strengthening the community was achieved. Implementation of a sustainable and culturally-inclusive territorial development plan was a significant achievement, unprecedented in the country. The strategy of situating responsibility and trust directly with the Lafkenche Association has been validated by its results.

Partners

The Lafkenche community and its leaders have been supported in their work by a number of partners. The Newen Pu Lafkenche Association appointed two young men with keen management abilities as Project Coordinators. Their leadership was strong both inside and outside the community. Additionally, the Bishop of Temuco offered the services of an agronomist engineer to direct the training and technical assistance required to set up the greenhouses.

agencies to work directly with indigenous communities in the region.

Barrier Removal

The project demonstrates that it is possible to build sustainable and participatory public management systems. A year after completing the project, the Bilateral Commission is still meeting and taking on commitments.

Scaling Up

The project has significant potential for duplication, particularly in the territorial management agreements involving the public sector and indigenous populations.

SOURCES CONSULTED

<http://sgp.undp.org/index.cfm?Module=Projects&Page=ShowProject&ProjectID=4754>

LESSONS LEARNED

Environmental Management

The promotion of sustainable fishing and shell breeding has not reached all expected targets, but with time will be disseminated more widely. In no small part, the SGP and other partners have built a model of trust for international

Vicuña Management Project, Chile

Themes

- Catalyzing the sustainability of protected areas
- Mainstreaming biodiversity in production landscapes and sectors
- Technical capacity development
- Institutional capacity development
- Policy and legislation
- Poverty alleviation (MDG 1)

PROJECT DATA

Project Name: Vicuña Management Project
Implementing Organization: Corporación Norte Grande
Project Location: Provinces of General Lagos and Parinacota, Tarapacá Region, Chile
Ecosystem Type: Arid and Semi-Arid Ecosystems
SGP Contribution: US\$50,000.00
Start Date: 1997



The sustainable shearing of vicuña wool generates income and is an incentive for vicuña protection (Chile).

BACKGROUND

The vicuña is a species of native camel from the Andean high plains present in most Aymara communities. Unlike alpacas and llamas, vicuñas do not breed while in captivity. Although protected by law, poaching continues to reduce vicuña numbers.

Due to agricultural and industrial development (particularly mining), the vicuña population dropped from several million in the 16th century to 400,000 during the 1950s and 1960s. Numbers have continued to drop, today a mere 2000 distributed across Chile, Argentina, and Bolivia, and some 10,000 in Peru. This process has been described as “one of the major depredation phenomena of Chile's ecological history.”

PROJECT DESCRIPTION

Summary

The project sought to develop a sustainable management plan for the vicuña with the participation of Aymara communities. The first project objective was to protect vicuñas from poaching. The second objective was to design a sustainable management system for the vicuña; one that encourages conservation and generates income for the region's inhabitants. The third objective was the design of a herding system to allow for sustainable shearing: cutting the wool for stockpile and sale. The final objective was to situate the wool in reliable markets at the highest possible price.

Implementation

Project implementation focused on three aspects: the attainment of knowledge necessary to achieve the sustainable management of the vicuña; a strategy to approach Aymara communities and overcome prejudices (vicuñas have little value as domestic animals); and locating reliable markets for vicuña products.

A regional plan for the use of vicuñas was created that included production indices, uses of animals, and a technical analysis of vicuña habitats.

A link was promoted between the communities, NGO representatives of Corporación Norte Grande, and the state agency Corporación Nacional Forestal (CONAF). Herding techniques were developed in conjunction with the knowledge necessary to realize a vicuña sustainable management project capable of linking communities with state technical agencies.

Once the technical aspects of management, herding, care, and shearing techniques were in place, the effort shifted toward developing a marketing plan for vicuña wool. The process began in 2001 with an international bid to sell the product from the first shearing. A decision was made to have two members of the community team travel around a number of European countries in search of better offers. The marketing process is now performed autonomously by the community with entrepreneurs. Sales are made jointly

by five communities that negotiate directly through a partnership formed by the Surire community.

An organizational strengthening process allowed the Andean communities to self-manage the project and continue marketing their product while independently broadening production and markets.

Environmental Benefits

The main environmental impact is the recovery and conservation of an endangered species. The key to the project's success were the relationships among independent agencies (NGOs), government agencies and community-based organizations.

Local Livelihood Benefits

The project was able to generate income for communities from the sale of sustainably harvested and produced wool. At present, figures on the international markets access are being prepared.

National Benefits

Although the use of vicuñas as a resource was in the past prohibited by law, the animals were still under threat from poachers and development activity. Previously seen as bothersome and of little sustainable value, vicuñas are beginning to be considered useful as a source of income generation and are now a resource protected by the wildlife protection authority (CONAF). This shift marks a significant advance in the area of conservation in the region.

Beneficiaries

The project benefits the highland Aymara communities involved in the project. Vicuña protection has also meant heightened action on protected areas in the High Andean Plateau of the Las Vicuñas National Reserve and other bordering territories such as the Lauca National Park.

Capacity Building

Many communities unknown to each other before now have a coordination system that joins them. Dispersed communities have voiced their satisfaction with joint efforts as one unified Aymara indigenous people. Another important aspect of this project has been the shared learning experience that has taken place in both the strengthening of the organization and the technical knowledge incorporated as a result of the process.

Partners

The role of the communities shifted from "passive reception" of external ideas to initiating agents in the ongoing process of vicuña management. In addition, NGOs like IUCN and Corporación Norte Grande have jointly proposed ideas with the Corporación Nacional Forestal (CONAF) and assisted in the development and

implementation of the first projects. The NGOs provided training and technical advice to the communities, while CONAF was the government agency that began the process. CONAF has taken a lead role in mobilizing technical teams and contributing most of the professionals who have participated.

LESSONS LEARNED

Environmental Management

The project resulted in the recovery and successful protection of the vicuña. Techniques were developed for the monitor of herds, care for the animals and controlled shearing. The project demonstrates the potential for community-led projects mutually beneficial both in terms of biodiversity conservation and poverty reduction.

Experiences and lessons learned from the project have been systematized and recorded in a published book. The experiences have been disseminated within Chile and in Argentina and have generated a high level of interest in many communities and public service organizations. As a result, other communities have begun to generate their own projects to manage vicuñas.

The project was a success largely because public institutions were able to bring continuity to the process. Without it, the initiative would have stagnated, as the process to make the project economically sustainable took longer than expected (some 10 years). Throughout the 'learning by doing' process, communities experimented and learnt to adaptively manage vicuña herds by trial and error.

Scaling Up

The project has been replicated in Argentina, applied to vicuñas in an environment similar to that of Chile. Replication would generally be contingent on: use of an endangered species that generated economic returns for the community; the interests of the communities involved being linked with the conservation of the endangered species; a public-private partnership; and project "models" drawing on cultural heritage and local and indigenous systems of organization.

SOURCES CONSULTED

<http://sgp.undp.org/index.cfm?Module=Projects&Page=ShowProject&ProjectID=591>

Red de Mujeres Productoras y Comercializadoras de Plantas Medicinales y Aromaticas, Colombia

Themes

- Mainstreaming biodiversity into production landscapes and sectors
- Financing mechanism and private sector involvement
- Awareness, culture, and practices
- Poverty reduction (MDG 1)
- Gender equity and empowerment (MDG 3)



Community women take leadership roles in the production and marketing of medicinal, aromatic, and culinary plants and herbs (Colombia).

PROJECT DATA

Project Name: Red de Mujeres Productoras y Comercializadoras de Plantas Medicinales y Aromaticas
Implementing Organization: Fundacion Espave
Project Location: Tanado and Samurindo, Choco region, Colombia
Equator Prize award: 2004 finalist
Ecosystem Type: Tropical, megabiodiversity hotspot
Natural Resources Conserved: Medicinal plants and herbs, forests, natural habitats, soil fertility
Start Date: 1996

PROJECT DESCRIPTION

Overview

Red de Mujeres Productoras y Comercializadoras de Plantas Medicinales y Aromaticas has developed local capacity in the Choco region of Colombia through the sustainable collection and processing of medicinal plants and culinary herbs as an alternative to harmful, unsustainable resource extraction in mining and forestry. Its products have met with remarkable success through sales in large supermarket chains, fostered community knowledge, and empowered local women.

Implementation

The project, spearheaded by six female family heads of the small populations of Tanado and Samurindo, was initiated in response to problems related to the production and sale of aromatic and medicinal plants. With the assistance of Fundacion Espave, a market study identified available productive, organizational, and commercial options. Local demand was recognized for "Verdura Chocoana" (a mixture of wild cilantro, oregano, white basil, purple basil, poleo, gallinita, and long onion). Together with partners from neighboring Quibdo, the network has expanded to include 75 Afro-Colombian women who take turns selling to other women's groups that specialize in processing plants from small family gardens. The initiative has evolved an organic certification process under the brand name *Tana-Organic Spices* and is sold in city markets and across the country.

Technology

Project technology is rooted in traditional practices and builds on local knowledge where practice conforms to the particular needs of each species. On the technical level, agroproduction technologies are developed using local

BACKGROUND

The Choco region of Colombia, home principally to black and mestizo indigenous communities, is characterized by high levels of biodiversity and many endemic species. One of the most important centers of megabiodiversity on the planet, it faces large-scale biodiversity loss. The Choco-Darien-Western Ecuador hotspot extends for 1500 kilometers along the western flank of the Andes mountains. From the Panama Canal, it extends south and east into the west coast of Ecuador's rainforest and into northwestern Peru.

The economic activities of the communities in the Choco region have traditionally involved the sustainable use of forest and subsoil resources. In recent decades, however, outside firms have begun extractive gold mining and forestry. These industries contribute to an indiscriminate looting of resources, the breakdown of culture and social relations, and the destruction of practices that support food security and the livelihoods of local populations. The poverty rate in the region is around 82%, only 29% of houses have complete public services, the infant mortality rate is above the national average, and life expectancy is only 55 years.

resources and following agroecological principles, making them accessible to local producers.

Environmental Benefits

Global: The initiative is located in a biodiversity hotspot under threat by the mining and forestry industries. To protect the species of plants that constitute the base of their product line, the network respects regulations regarding medicinal herb extraction and production. Because the project relies on complete forest ecosystems in order to cultivate and harvest culinary and medicinal herbs, the communities contribute to its conservation and sustainable use.

Local: In a region experiencing external pressure from extractive resource industries, the sustainable collection and processing of medicinal plants and herbs offers a local alternative economy that promotes sound environmental stewardship. The process of increased crop cultivation for different species allows for rotational harvesting, nutrient recycling, and the conservation of habitats. Different areas for growing crops are respected, avoiding specialization of production, pest outbreaks, diseases and, by extension, the loss of soil fertility.

Local Livelihood Benefits

Health: Network activities have resulted in an overall decrease in the purchase of chemicals for the production of raw materials, freeing up resources for basic needs, yielding more organic crops, and lessening the risk of communities to chemical exposure.

Poverty reduction: Tana-Condimentos Organicos is sold through major supermarket chains with monthly sales of US\$865 and net annual sales of USD \$10,390. Women in the network have increased their family income by 25%. In addition to the traditional Quibdo market, the women gain income through the direct sale of products to the network. A group of five women in charge of gathering, processing, assembly, and marketing activities earn a minimum legal wage that includes social benefits. This constitutes a newly stable source of income.

Employment: The network has evolved from a six-person operation to employ 85 local, previously marginalized women. While a total of 85 women are directly employed, the initiative indirectly creates jobs for another 385 people.

Food production: An important traditional practice that the women have built upon is the cultivation of plants in their backyards. Women plant not only the species needed for spice production, but also medicinal, aromatic, wood, and fruit plants. Because they are located at the women's homes, these gardens help maintain the equilibrium between their productive and family activities. The network reinforces traditional knowledge systems by

ensuring that the production of condiments does not conflict with other means of subsistence, but rather compliments them in an ecologically sound manner by establishing sustainable agricultural methods for the marketing of spices, raising ducks, hens, chickens, fishing, forestry, harvesting non-timber forest products (NTFPs), and hunting.

Improved local opportunities: The project offers an opportunity for income generation through sustainable resource usage and a valuable alternative to the resource extractive industries.

Gender Equity: The initiative has stemmed progress in the valuation of species cultivated principally by women, specifically cilantro, basil, poleo, and oregano. The position of women in the community and in the region is improved such that they now play a more active role in local and even regional organizing processes.

Regional and National Benefits

Demonstration effects: Red de Mujeres Productoras y Comercializadoras de Plantas Medicinales y Aromaticas is at the forefront of a new paradigm in a region that has been ravaged by unsustainable resource extraction. It assigns value to the forest beyond its use as timber.

Capacity building: The network has built capacity by extending community agro-industry and traditional ecological knowledge to larger markets without surrendering control over production, management, and ecological stewardship.

Policy development: A green business that operates at the national level, this project has the potential to inform government policy in Colombia as well as in other countries with comparable challenges posed by unsustainable industry and environmental degradation.

Beneficiaries

The primary beneficiaries are the women involved in the network. Secondary beneficiaries are the families and households these women lead, with subsequent improvements in living conditions.

Partners

The main partners of the initiative are the Fundacion Espave, a NGO from Medellin, and the Women's Group.

LESSONS LEARNED

Environmental Management

The project demonstrates the potential for communities of women to organize themselves and to encourage sustainable uses of biodiversity vis-à-vis financially viable enterprises.

Barrier Removal

Financial: With minimal external funding, the project was able to remove barriers to external markets. Experience with business is rare in the region, which makes the network a potential prototype of community management.

Technical: The initiative develops and consolidates social capital and the technology to carry out required production processes while meeting the criteria for social, environmental, and economic sustainability.

Institutional: Ensuring complete community ownership of the project and its benefits is essential. The project achieves this by developing partnerships with local people based on cooperative, mutually beneficial relationships.

Information/knowledge: Communities have deepened their knowledge of the systems of production, cultivation, management and control of diseases, soil requirements, harvesting, and processing. This knowledge has allowed communities to carry out innovative research on the viability of different plant varieties - for example, saffron and vanilla. The former has been introduced and naturalized into the region and the latter is a wild variety in the process of domestication.

Scaling Up

There is strong potential for scaling up the programme and using the project as a prototype in neighbouring cities and regions. The demonstrative capacity of this project rests in its ability to harness social capital in combination with traditional ecological knowledge and community participation. The initiative is based on restoring and then adapting traditional practices, building on the knowledge of traditional women who grew medicinal herbs domestically.

The network is now targeting Cali and Bogota to sell their products, where it has access to new and traditional consumers that will help to increase sales. The next step is to tap into US and European markets for organic and "fair trade" products. This engagement in commerce allows for the exchange of bio-enterprise experience with people from other regions.

SOURCES CONSULTED

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The Artola Firefighters Brigade, Costa Rica

Themes

- Catalyzing the sustainability of protected areas
- Linkages with other environmental goals
- Technical capacity development
- Institutional capacity development
- Poverty alleviation (MDG 1)

PROJECT DATA

Project Name: The Artola Firefighters Brigade
Implementing Organization: Association of Artola Firefighting Brigade Members
Project Location: District of Sardinal, Province of Guanacaste, Costa Rica
Ecosystem Type: Forest ecosystem
SGP Contribution: US\$ 19,898.00
Start Date: 2004



Local cattle-raisers firefight to protect forest ecosystems (Costa Rica).

long-term economic sustainability of the brigade and its activities.

Implementation

The first phase of the project consisted of providing cattle-raisers and farmers with information about fire prevention. An agreement was reached local farmers to provide the brigade with 500 colons per year per hectare as an operating budget for the brigade. The brigade trained the population in the areas of fire control, fruit and vegetable growing, and the use of organic and leaf fertilizers. With the money raised, the brigade proceeded to buy firefighting equipment and tools, obtained an insurance policy, exchanged experiences with other brigades, and sold its services (controlled burnings, rounds, firefighting, maintenance) to neighboring areas.

The second phase of the project addressed the economic sustainability of the brigade. A parcel of land was cleaned and cleared to create an organic produce garden. The fruits and vegetables harvested from the garden were sold in the local market and to tourists, in order to maintain the fire-fighting control.

In the final phase, agreements were reached with farm-owners and with the tourist sector to receive modest financial support in exchange for services and support to the tourist industry.

Environmental Benefits

The project managed to reduce incidence of forest fires significantly, allowing for the gradual recovery of the surrounding ecosystems. There has been, as a result, less soil erosion and more animal life in the area. Additionally, brigade activities reduced the number of uncontrolled burnings performed by farmers, the number of fires, and the total area affected by the fires. Project activities also saw a significant reduction in the deforestation rate.

BACKGROUND

In recent years, forest fires have jeopardized the forests and forest plantations of roughly 32,500 hectares of the Sardinal Hills in Costa Rica. In 1991, the first voluntary firefighters' brigade was created to strengthen the response capacity against fires affecting the region's protected forest areas.

The Artola Firefighters Brigade is composed of small cattle-raisers and farmers devoted primarily to subsistence agriculture (particularly corn, beans, plantain and cassava). All working as volunteers, their motivation is avoidance of fires, protection of the environment, and helping the community. The firefighting hat allows these small-scale farmers the opportunity to expand their horizons and to move beyond their everyday routines.

Most brigade members are over 40 years of age. The association has had some difficulty recruiting younger volunteers, as many work or simply lack the motivation. This trend has started to change as increased financing has motivated a younger generation to join the brigade. Financing, however, continues to be a problem relative to the demand for their services.

PROJECT DESCRIPTION

Summary

The project aims to control the incidence of fires in the Sardinal area to ensure the protection of the natural environment. Additionally, the project seeks to strengthen the region's firefighting capacity by creating income-generating activities that will allow for the medium and

Local Livelihood Benefits

The project increased knowledge about environmental preservation and issues surrounding forest fires and ecosystem services. Brigade members are now better trained and equipped to fight the fires, are better protected, and now have insurance coverage. There remains, however, a significant gender inequity in the brigade.

National Benefits

The project improved the community's capacity to organize itself, build alliances, cooperate with other actors, and develop programmes to actively improve the situation of the physical environment. Brigade efforts are increasingly recognized by government authorities, empowering the community and encouraging other civil society association.

Beneficiaries

The project assisted the populations of eight communities whose rural aqueducts are fed by wells or watersheds located in the hills protected by the brigade. The project similarly benefits the entire coastal region, since firefighting efforts on the hills ensure for coastal communities and accessible and good-quality source of water.

LESSONS LEARNED

Environmental Management

Firefighting involves a strong element of prevention. Fire prevention should move beyond controlled burnings to environmental education (particularly for school-children).

The organic produce garden is a good source of income, but one that must be adapted to local realities. In case of this project, there are no means of transportation to carry produce out of the area, so access to larger markets is limited.

Key elements of the project revolve around paradigmatic shifts regarding cooperation between farmers, the appropriate context for controlled burns, and the role of prevention in fighting forest fires. The brigade is working on an economic sustainability plan to generate income and lessen dependence on the contributions of external actors.

SOURCES CONSULTED

<http://sgp.undp.org/index.cfm?Module=Projects&Page=ShowProject&ProjectID=7138>

Association of Agroecological Production Families of the South (AFAPROSUR), Costa Rica

Themes

- Mainstreaming biodiversity in production landscapes and sectors
- Innovative technology applications
- Technical capacity development
- Poverty alleviation (MDG 1)
- Health (MDGs 4-6)

PROJECT DATA

Project Name: Association of Agroecological Production Families of the South (AFAPROSUR)

Implementing Organization: Association of Agroecological Production Families of the South (AFAPROSUR)

Project Location: Community of San Rafael de Platanares, Province of Heredia, Costa Rica

SGP Contribution: US\$ 19,104.00

Start Date: 2002

BACKGROUND

The community of San Rafael is composed of small producers devoted to producing coffee as a single crop and to cattle-raising. Twenty years ago, when the community saw coffee prices rise, farmers abandoned subsistence agriculture in favor of coffee, which yielded higher returns. Coffee sales to regional companies represented the single main source of income for most families. Coffee prices, however, soon fell as the region was heavily affected by the current "coffee crisis". In response, farmers of San Rafael created an association aimed at diversifying their products and selling them in local markets.

PROJECT DESCRIPTION

Summary

The Association of Agroecological Production Families of the South (AFAPROSUR) aims to produce, process, and market organic products at a constant rate, guaranteeing a balance between food security for consumption needs of families in the community and market demands by way of produce for market and sale. The association allows the community to produce their organic products with an agroecological approach, ensuring the ecological and economic sustainability of their activities.



Fertilizers and bioferments are produced to sustain soil productivity for organic coffee production (Costa Rica).

Implementation

To confront the impending crisis in the coffee sector, 14 families created a non-profit organization in January 1999, the activities of which would be financed with member contributions. AFAPROSUR now promotes organic agriculture in the region, educates communities on how to follow a healthy diet, protects the environment, and offers training in organic agriculture.

The first stage of the project consisted of constructing a community fertilizer factory to produce solid and liquid fertilizers and bioferments. All fertilizer produced during the first stage was used to recover soil, making it fit to produce organic vegetables and fruits.

The second stage saw the establishment of a small facility to process organic coffee that would later be sold in local and regional markets. A toaster, peeler mill, scale and machine to seal off the coffee packages were purchased. Also in this stage, the "House of Coffee" where the beans are processed was built.

The final stage involved consolidation of production through the building and maintenance of small terraced greenhouses under common covers, a common irrigation system, and the establishment of a centralized procurement system to purchase all materials necessary for their agricultural work.

Environmental Benefits

The project resulted in more balanced and fertile soils and less soil erosion. Members of the association eliminated agrochemical use, providing for cleaner air and uncontaminated water. Additionally, several native seeds were recovered as a result of the project and community knowledge was broadened around organic agriculture and environmental conservation methods.

Local Livelihood Benefits

Participating coffee farmers have experienced a significant increase in income. Where farmers previously received on average US\$36 for a "fanega" of conventional coffee, they now receive US\$120 for processed organic coffee. Further, the communities achieved a measure of food security, healthier and more diversified diets, and greater family participation in productive activities.

The project similarly created jobs for rural wage-earners and allowed farmers to make better use of available farm resources. Farmers have experienced increased autonomy in their trade, becoming less dependent on commercial stores for the purchase of their seeds and agrochemical products.

National Benefits

Changing production models allowed the community to adopt a participatory model of local development based on a balance between environmental conservation and income generation. The association has mobilized key alliances with national and regional government (MAG) and non-government (ACICAFOC) actors. These alliances contribute to the overall development of the association and are now contributing to the dissemination of information both in the region and nation-wide.

Beneficiaries

In terms of food security, the project benefited the 12 families of the association members. The main economic beneficiaries are the families that sell the agricultural products at the "Producers' Fair". Similarly, the wider community of San Rafael benefits from the purchase of organic products and from a healthier environment.

Partners

The main project partner, ACICAFOC, organizes exchange visits, tours, courses, and training for the association. ACICAFOC acted as a bridge between the association and other organizations and institutions and as reference for the association when required by donor agencies. ACICAFOC was also the key project facilitator, creating an enabling environment for development of the project. Other government and non-governmental organizations supporting the project included the Ministry of Agriculture and the INA, which respectively contributed transportation, logistical support, and a variety of courses and training in organic agriculture, organic fertilizers, and related topics.

LESSONS LEARNED

Environmental Management

Project objectives and activities proposed should be consistent with local needs. Otherwise, the project inevitably suffers delays because it has to modify inadequate activities, reassign funds, and get authorization from donor agencies to make budget changes.

It is important to seek the support of individuals with past experience and establish effective mechanisms of organizing these individuals in a spirit of genuine exchange.

The shift from conventional agriculture to organic agriculture must necessarily be developed and implemented in a step-by-step process, beginning with a few plantations and gradually expanding as techniques are mastered. Organic agriculture requires a good deal more work than conventional agriculture given the extra labor required in producing fertilizers, bioferments, and the like. It is important because of the extra efforts required that all participants have faith in the benefits of the organic model and are dedicated to the project. Family participation is imperative in this regard.

Scaling Up

One hectare of land can house greenhouses and covers to grow enough fruit, vegetables and livestock to equally fill a family's basic needs and generate sufficient income. Through crop variation and crop rotation it becomes unnecessary to leave land idle. Small producers who own small parcels of land can quite easily replicate this system.

An important factor in replication remains evaluation of whether the community in question is capable of shifting their way of thinking about agriculture. Firm conviction in organic agriculture is necessary for success. A community can receive years of training and courses on organic agriculture, but if there is not genuine commitment to the virtue of organic agriculture, the project will not succeed.

SOURCES CONSULTED

<http://sgp.undp.org/index.cfm?Module=Projects&Page=ShowProject&ProjectID=6295>

The Costa Rican Organic Agricultural Movement (MAOCO), Costa Rica

Themes

- Mainstreaming biodiversity in production landscapes and sectors
- Linkages with other environmental goals
- Technical capacity development
- Policy and legislation
- Poverty alleviation (MDG 1)
- Health (MDGs 4-6)



Small organic farms are used to promote production and development alternatives in the agricultural sector (Costa Rica).

PROJECT DATA

Project Name: The Costa Rican Organic Agricultural Movement (MAOCO)

Implementing Organization: Association of Costa Rican Organic Producers and Consumers

Project Location: Costa Rica

Ecosystem Type: Forest ecosystem

SGP Contribution: US\$20,000.00

Start Date: 2004

distribution of agrochemicals in the country, but to propose production and development alternatives for the agricultural sector and to propose better conditions for organic agriculture.

The movement seeks to achieve better development conditions for organic agriculture such that any farmer wishing to switch to organic agriculture may do so effectively and with the support of a shared enterprise network.

BACKGROUND

Small producers in Costa Rica have, since the late 1980s, shifted their production techniques to the more sustainable use of natural resources and organic agriculture. Producers found in organic agriculture an alternative to overcome the increasing costs of synthetic agrochemicals and low yields due to excessive pollution and soil exhaustion. Additionally, farmers chose organic agriculture for health reasons: farmers and their families suffered to differing degrees the adverse effects of agrochemicals. This shift in practice was motivated by a common desire to recover biodiversity and preserve the environment in order to keep their land free of pollution and contamination.

While an informal network of organic farmers occasionally met to exchange information, materials and opinions, most efforts were atomized and few initiatives were implemented collectively. Functions and efforts were duplicated, support benefited only specific projects, and information dissemination between actors was limited. For these reasons, it was necessary to mobilize NGOs, farmers, state officials and universities to create a national network capable of setting common objectives.

Implementation

MAOCO was born of a desire by individual members and a group of NGOs in Costa Rica interested in joining efforts to coordinate a regular support mechanism for organic farmers. There was widespread awareness that collective effort was necessary to both promote organic agriculture and to achieve better representation and a higher impact. Interest in MAOCO continued to grow through meetings and a number of actors from various sectors began to put their faith in a philosophy based on the preservation of biodiversity and the environment.

Central to the establishment of MAOCO was the identification of leaders in the field and their subsequent mobilization. By meeting, they could learn from one another about the physical and political environment in Costa Rica and share experiences in the field of organic agriculture.

Enactment of the 1995 Fundamental Law on the Environment ("Ley Orgánica del Ambiente") gave organic agriculture the legality it required by establishing basic regulatory guidelines for the production, preparation and marketing of organic products in the country.

PROJECT DESCRIPTION

Summary

The Costa Rican Organic Agricultural Movement (MAOCO) has been consolidating membership since the 1990s. The organization's stated purpose is not to attack the conventional agricultural sector or the import and

Much of MAOCO's efforts, resources, and time have been spent designing regional strategies. These regional plans constitute the building blocks of a National Strategy for Organic Agriculture. MAOCO has also prepared a

proposal to replace the National Organic Production Development Law.

Environmental Benefits

MAOCO' methodology is one of direct involvement for individual organic producers and existing organizations of organic producers. This participatory model encouraged personal interest in and identification with the strategies and processes surrounding organic production. Similarly, regional strategies have emerged to provide actors with an opportunity to become involved in organic agriculture and to adopt informed positions on which to negotiate with regional authorities (government agencies of the agricultural and livestock sector), the national government, and development agencies.

MAOCO's strategy is characterized not by a disorganized assortment of claims and demands against the government, but consolidated and legitimate representation and action in the development of Costa Rica's organic agriculture sector. MAOCO has successfully disseminated information on organic production throughout Costa Rica, created national awareness of alternative techniques and established a positive image and reputation for small organic producers.

Local Livelihood Benefits

Organizing around and working with small organic farmers has allowed the actors of the organic sector to join forces and to react faster. This represents a great step forward for small producers who are empowered by their ability to voice their concerns and needs and by their newfound inroads to political advocacy.

National Benefits

Reactions generated from the national government, academia and international institutions and organizations have been overwhelmingly positive. Many are eager to assist and lend support. Formal organization of common interests has allowed MAOCO to take advantage of such opportunities.

Thus far, MAOCO has been successful in achieving political impact, establishing the organization as a political reference point and increasing the visibility of its organizations, producers and initiatives. MAOCO has developed capacity to formulate proposals and mobilize individuals.

LESSONS LEARNED

Environmental Management

MAOCO has provided an organizational structure for producers working to provide environmentally-friendly alternatives to agrochemical use. Toward this end, the organization has been able to attract a number of actors and submit a number of proposals. MAOCO continues to generate political impact and continually seeks higher forums for its cause.

Scaling Up

The organization continues to look for financial resources to scale-up. It has been limited in this sense not only by the scarcity of such resources, but also by its weak legal and administrative structure and its subsequent absorptive capacity.

In order to move away from its economic dependence on external financing agents, the Movement has developed a series of self-financing projects. Current projects include the "micorriza" project, sales among both conventional and organic producers, and the development of a programme to produce native organic seeds.

SOURCES CONSULTED

<http://sgp.undp.org/index.cfm?Module=Projects&Page=ShowProject&ProjectID=7259>

Production and Marketing of Organic Coffee, Dominican Republic

Themes

- Mainstreaming biodiversity in production landscapes and sectors
- Financing mechanisms and private sector involvement
- Technical capacity development
- Institutional capacity development
- Poverty alleviation (MDG 1)



PROJECT DATA

Project Name: Production and Marketing of Organic Coffee

Implementing Organization: Institute for the Development of Associative Economies - IDEAC

Project Location: Municipality of Polo, Province of Barahona, Dominican Republic

Ecosystem Type: Mountain ecosystem

SGP Contribution: US\$30,377.00

Start Date: November 2002

Implementation

This project was introduced following a participatory rural diagnosis which involved the preparation of a strategic plan for each associative rural enterprise (ERA) in the area. The project retained the certification services of the IMO-Caribe Swiss certifying agency to certify the 171 small farms of the producers that would benefit from this project.

A rotary fund was created to diversify and transform traditional coffee plantations into organic coffee plantations, with contributions from the Autonomous Community of Madrid (CAM, for its Spanish acronym). These funds have assisted the ERAs in covering the up-front costs of converting from traditional to organic production.

Sixteen beneficiaries and ERA members were trained as internal organic inspectors and were made responsible for inspecting farms in advance of external certifying agencies. Another eight beneficiaries were trained as organic coffee quality inspectors, responsible for operating the coffee-processing centers and ensuring the quality of the processed coffee. Additionally, the entire community was trained in all organic certification processes, including fertilizer production and sanitary control of coffee plantations.

Project funds were also made available for investment in capital and a greenhouse was set up, with capacity to produce 150,000 plants per year.

BACKGROUND

The Province of Barahona is located in the south of the Dominican Republic. Its main economic activities are agriculture (sugar cane and coffee, among others), mining, the maritime port and power generation.

In the mountainous zone of the Dominican Republic, coffee growing provides the main source of income. During the past few years, however, coffee growers have tended to look for alternative sources of income, migrating to other places or replacing their coffee plantations with new crops, due mainly to the drop in the international coffee prices and to the presence of pests like the coffee leaf rust ("Roya") and the coffee berry borer ("Broca").

PROJECT DESCRIPTION

Summary

The project seeks to introduce the small coffee growers of Polo to a new strategy to produce and market organic coffee. By obtaining organic product certification, the coffee growers of Barahona will be able to obtain better prices for their crop. The certification standards, in turn, set the bases for new production practices that ensure the conservation of the biodiversity and improve the living standards of the farmers.

Environmental Benefits

The implementation of the certification requirements has allowed the community to experiment with new soil conservation practices. An example can be seen in the benefits of building barriers to keep erosion from weakening the soil. The soil has also benefited from the development of a compost system that relies on worm cultures who subsist on coffee byproducts and household waste.

The environmental improvement arising from the project is visible in the 82 hectares planted by the region's coffee growers. Forest coverage has increased, and production systems have been diversified, thanks to fruit trees planted to give shade to the coffee plants. Soil productivity has improved as a result of the use of community-manufactured organic fertilizers. Erosion is now under control, thanks to the barriers built by the ERAs, and biodiversity has been preserved due in large part to the elimination of the use of toxic chemicals to grow the coffee and to the over 5,000 trees of native species that have been planted.

Local Livelihood Benefits

In the space of the project, income grew by 46% among the 143 families who participated in the experiment. This project introduced new coffee-growing agricultural practices that conserve both biodiversity and the soil and allows the ERAs to place their product in preferential markets.

National Benefits

The success of this project has elevated the prestige of local organizations in the eyes of the authorities. This prestige has been reflected in the community's participation in very specific proceedings with local government. Most significantly, they were able to participate in a regional mechanism aimed at getting part of the region declared a protected area, in order to protect it from the environmental degradation caused by mineral exploitation.

Beneficiaries

The project has directly benefited 143 peasant families by increasing their income level. An additional 1,200 individuals, relatives of the above-mentioned families, have benefited indirectly.

The nearby "Sierra de Bahoruco" National Park, with its endemic species and unique ecosystems, has also been a beneficiary of this project. Now that the coffee growers living in the community of Polo are benefiting from the use of sustainable practices and have learned to protect natural resources, the ERAs serve as a barrier to destructive forces, easing the pressure on the resources of the national park.

Capacity Building

The project was developed using a "learning by doing" philosophy. Agricultural promotion teams, composed of producers and promoters, offered technical assistance, and regular community gatherings offered a space to exchange experiences. These spaces contribute to the training process in the areas of soil conservation, pruning, fertilizing and sowing. Furthermore, organized producers are being trained in accounting so that they can keep records of their

organic coffee marketing business and better organize to form a community-based small-scale enterprise.

LESSONS LEARNED

Environmental Management

This project was successful due in large part to restoring trust among participants with respect to agricultural technical assistance. The advice of technical experts in participative decision-making, information delivery and activity performance generated a sufficient level of trust among the community, which allowed the project to operate at the scale of the community.

In this case, the protection of natural resources via the implementation of organic coffee production methods, was easily leveraged in association with specific activities that raised participants' living standards.

Relationships with external organizations to coordinate material resources and knowledge also raised the communities' self-esteem. The community's efforts are valued for their innovative practices and positive results. This respect has contributed to amplify the project's effects not only inside the community but also among other neighboring communities, which want to pursue similar practices.

Barrier Removal

The main barrier addressed by this project was overcoming the sense of dependency perceived by the coffee growers of Polo. By integrating the beneficiaries into every aspect of project development, the community gained a sense of confidence in their abilities and a sense of ownership over the project.

Community members were active in identifying project priorities, planning implementation, and in executing the project. Knowledge sharing and the systematic advice and follow-up offered by the technical experts were the main methodological principles used to raise the coffee growers' confidence. As a result, the success of the project is attributed to the ERAs and not to the technicians who accompany them in their efforts.

Based on these principles, the process has strengthened the ERAs in many aspects, including the people's managerial skills, the development of a marketing strategy, the command of sustainable production practices and the sustainable use of the natural resources.

Scaling Up

The success of this project has led to the cooperative's rapid growth with new members eager to join. To continue its success, the cooperative must establish criteria and rules in order to avoid exceeding its current capacity

and maintain the quality of its members, ensuring that they are willing to commit to the cooperative's vision.

SOURCES CONSULTED

<http://sgp.undp.org/index.cfm?Module=Projects&Page=ShowProject&ProjectID=5796>

Los Calabazos Abajo and Las Guazaras Ecotourism, Dominican Republic

Themes

- Catalyzing the sustainability of protected areas
- Financing mechanism and private sector involvement
- Institutional capacity development
- Poverty alleviation (MDG 1)
- Gender equity and empowerment (MDG 3)

PROJECT DATA

Project Name: Los Calabazos Abajo and Las Guazaras Ecotourism

Implementing Organization: Nueva Esperanza Mothers' Club

Project Location: Province of La Vega, Cibao Central Region, Dominican Republic

Ecosystem Type: Forest Ecosystem

SGP Contribution: US\$19,000.00

Start Date: 1997

BACKGROUND

In the communities of Los Calabazos and La Guazara, pressure on natural resources has been growing for a variety of interlinked reasons. The region is marked by low wages in the primary agricultural sector, a relative absence of measures to mitigate periods of water shortage, as well as the near total exclusion of women from income-generating activities. In relation to these causal factors, there is also a lack of environmental awareness, attributed in part to population migration from "the plains".

The largest income source for inhabitants of both communities is cultivating the land, which in most cases still belongs to absentee landlords. Traditionally, this zone has been used for horticulture and to grow shade-grown coffee, until coffee production was hit by the coffee berry borer ("Broca") and the collapse of the international price for coffee. As a consequence, many coffee plantations were uprooted and replaced with other short term cash crops."

The largest income source for inhabitants of both communities is cultivating the land, which in most cases belongs to third parties. Traditionally, this zone has been used for horticulture and to grow shade-grown coffee, until coffee production was hit by the coffee berry borer ("Broca") plague and the collapse of the international price for coffee. As a consequence, many coffee plantations were dismantled and replaced with other short-cycle products, giving way to a migration-type of agriculture.

In the face of these challenges, ecotourism was chosen as a tool to create an effective and sustainable link between the preservation of natural resources and biodiversity, and the social and economic development of Los Calabazos and La Guazara.

PROJECT DESCRIPTION

Summary

This project sought to contribute to the conservation of biodiversity by developing a tourist-related activity as an alternative source of income generation for the population and organized groups of women from the communities of Los Calabazos Abajo and Las Guazaras. The key strategy of this new activity was composed of the recreation potential of the Yaque del Norte River and the landscape resources of the mountain ecosystems surrounding the ecologic transept that joins the two communities.

Implementation

Approximately 40 women were trained in developing and managing the ecotourism venture. To implement training, the project organized workshops on capacity building, gender equity, tourism and ecotourism, and ecology and environmental management.

Project funds also built a restaurant and two paths, and restored two beach resorts. The ecotourism restaurant "Sonidos del Yaque" is now administered by the women's association known as La Nueva Esperanza Mothers' Club, and has in turn promoted two other projects: one for the construction of 5 cabins for ecotourism and one for "alternative energy generation".

The remainder of project funds were used to create a rotary fund with the partners of the "Sonidos del Yaque" ecotourism consortium.

Environmental Benefits

Approximately 70% of the population of Los Calabazos is now aware of the importance of protecting and respecting the environment, and endeavors to ensure that others respect it, because they understand that by doing so, they are protecting their source of income.

Approximately 80% of the waste produced by the community is now sorted: inorganic waste is removed by the Mayor's Office and organic waste is composted and used as fertilizer.

To date, approximately 70% of the community members use sustainable technologies for agriculture, and they have reduced "slash-and-burn" agricultural practice (burning trees and vegetation to plant short-cycle products) by 90%.

As a result of the development of ecotourism as an alternative source of income the project has achieved a

90% reduction in tree felling in the area, and has increased reforestation in the project-adjacent areas. This has been made possible through support of state agencies and an investment of 10% of the profits obtained from other activities.

Local Livelihood Benefits

Project participants' family income has grown by approximately 15%, which has translated into better access to education and health services, and has generated the opportunity to acquire technologies to facilitate the day-to-day development of these communities. Furthermore, awareness has been created among the community members in the area of preventive health, reducing the incidence of child respiratory diseases stemming from the smoke of kerosene lamps.

National Benefits

Two other initiatives have emerged from this project: The construction of 5 cabins for ecotourism and "alternative energy generation", also financed by the SGP, and planned mainly to provide electricity to the ecotourism facilities. The projects were formulated in 2003, and the organizations created the "Sonidos del Yaque" Ecotourism Consortium. Five years after completing the first project, it is impossible to disassociate the impacts of this project from those of the other two, because they have been working jointly from the beginning.

Beneficiaries

The direct beneficiaries of the project are the members of the community-based organizations that participated in the project, and the suppliers who provide the community with supplies and raw materials. The community of Los Calabazos is composed of some 35 families, of which approximately 80% benefit from the project.

Capacity Building

Participants have received useful training to increase their knowledge and allow them to handle different topics, and have also had an opportunity to enter into contact with other experiences.

LESSONS LEARNED

Environmental Management

The training of human resources and the implementation of the knowledge acquired must happen gradually, on a combined basis. Participatory mechanisms must be established, and special emphasis must be placed on distributing the project benefits among all the communities involved.

Barrier Removal

The project has positively impacted the community, by enhancing women's self-esteem and empowering them, while incorporating approximately 60% into the social and economic activities of Los Calabazos. This is an important step in breaking the pattern of roles culturally assigned to women in the Dominican society.

Scaling Up

The national and regional context must be borne in mind, especially when thinking about access to markets. Alliances must be created among similar projects, in order to ensure a joint development of ecotourism services. A marketing plan must be developed, including market niches, target public identification, and strategies to attract a larger number of tourists, in order to ensure the sustainability of the project (National or regional community-based ecotourism).

SOURCES CONSULTED

<http://sgp.undp.org/index.cfm?Module=Projects&Page=ShowProject&ProjectID=714>

Yunguilla Community-Based Ecotourism, Ecuador

Themes

- Catalyzing the sustainability of protected areas
- Mainstreaming biodiversity in production landscapes and sectors
- Linkages with other environmental goals
- Technical capacity development
- Awareness, culture and practices
- Poverty alleviation (MDG 1)



Ecotourism is used to combat deforestation in a mountainous protected area (Ecuador).

PROJECT DATA

Project Name: Yunguilla Community-Based Ecotourism
Implementing Organizations: Yunguilla Community Ecotourism Committee and the Maquipucuna Foundation
Project Location: Province of Pichincha, Ecuador
Ecosystem Type: Mountain ecosystem
SGP Contribution: US\$ 10,947.00
Start Date: 1997

Implementation

The initial stage of the project was the development of a training plan, which included: capacity building, conservation and management of natural resources, food preparation, nutrition, customer service, lodging, administration, and accounting. The sustainability of this training programme was based on the promotion of local leaders and therefore the training of indigenous guides was central to this part of the project. Guides were trained in biodiversity, ecology, guide work and operations.

The second stage of this project was focused on increasing the community's equity. The Maquipucuna Foundation bought the 23-hectare Tahuallullo farm, located in the buffer zone of the Maquipucuna reserve. Existing dirt roads were repaired and adapted, and nine new trails were built to provide activities for visiting tourists.

Additionally, an ecological analysis of the area was prepared and a database was established to monitor the health of existing fauna and flora populations.

Finally, with the support of the Maquipucuna Foundation, the Yunguilla community generated a series of productive initiatives in addition to ecotourism, reforestation, organic fruit and vegetables gardens, environmental education, marmalade production, a dairy production plant, and craft production programmes are examples of these. This portion of the project was developed in recognition of the fact that tourism is sensitive to fluctuations in demand that are outside the community's control. To bolster the ecotourism venture the community expressed an interest in developing traditional activities such as agriculture and cattle raising, to ensure integrated and sustainable economic returns.

Environmental Benefits

As a result of this project, the practice of felling and burning trees to obtain charcoal significantly decreased.

BACKGROUND

The Yunguilla community is situated in the protected forest of the upper basin of the Guayllabamba River. The area is connected with the Maquipucuna Reserve. These forests play a major role in the conservation of the biodiversity, preservation of historic and cultural remains, and the protection of water resources. The main threat faced by the area has been the felling of trees to obtain wood and charcoal, and to clear pasturelands.

In order to protect the forest, a fundamental change in the behavior and attitude of the population towards the environment was necessary. The deforestation of the reserve had become a regular practice. According to data collected by the Andean Native Forest Programme (PROBONA), between 1995 and 2000, each family would fell approximately 1 hectare per year (since there were 50 families, 50 hectares were lost every year). In view of such an alarming reality, the community organized a project to create incentives for the conservation of the forest.

PROJECT DESCRIPTION

Summary

As an alternative to unregulated forestry, the project proposed the implementation of ecotourism activities to integrate and leverage the various agroecological and forest management initiatives in the area. Additionally, new productive activities were set up to motivate the community and generate tangible economic benefits.

The community is now engaged in new productive activities that allow it to generate more wealth. Furthermore, family-owned farms have implemented agricultural and forest management practices and techniques.

Broad portions of the area are now reforested and the results have improved the aesthetic value of the landscape and its ability to regulate water table fluctuations between the wet and dry season.

To ensure the protection of the forested areas of the Reserve, the community now has records that allow for frequent ecological evaluations. Thus monitoring endangered species and analyzing changes in population density. PROBONA has reforested 50 hectares of the protected area and has implemented a forest management plan. Additionally, the project has prepared an inventory of the attractive spots in the area, local capacity has been enhanced, and the organization has been strengthened.

Local Livelihood Benefits

This project was successful in motivating and integrating all the families in the community into both conservation and production activities. Men, women and children participated in the various project activities.

In order to fill the education needs of the community and the ecotourism venture the project created the Monseñor Leonidas Proaño School, based on a distance education system.

As a result of lessons on maintaining a healthy and balanced diet overall community nutrition improved. The establishment of community gardens raised the purchasing power of the population, which could now save on the produce it used to buy in the market and now produced at home.

Finally, migration has dropped as a result of the new jobs that have been generated by diversifying the community's productive activities. The young population no longer needs to migrate to the city in search of new livelihoods.

National Benefits

As a self-management initiative, the ecotourism project opened significant avenues for public relations and citizens' participation. In 2000, the community contributed to the preparation of the regulations for the official local tourism law, in the formulation of the related technical certification standards, and in the establishment of the rules to regulate ecotourism. The two latter rules have since been applied nation-wide. A community leader is also now a member of the Board of Directors of the Ecuadorian Ecotourism Association (ASEC).

Participants

The community is composed of 60 families, 80% of which are members of the Yunguilla Corporation and therefore direct participants in the community-based ecotourism project funded by SGP. Seventeen local guides have been trained - 14 men and 3 women, 17 to 38 years old.

Additionally, 22 women who work by shifts in organic agriculture have benefited from the project. All women take turns at working in the fruit and vegetable garden, and they get paid with produce from the garden itself. Husbands often participate too. Another 22 women work in producing marmalades and jams, for which they are paid.

Capacity Building

Through training, the population has become aware of the importance of preserving and valuing their natural resources. The project participants feel that the process initiated by this project will continue to benefit when the SGP has finalized its intervention. The community has set goals to continue to work in ecotourism and to undertake new productive activities.

Organic agriculture practice was implemented in all family gardens in an effort to create an understanding of and appreciation for economically and environmentally sustainable technologies.

Finally, gender equity training showed positive results. Women now manage and administer productive activities and have gained access to representation within the community decision-making structure.

Partners

PROBONA is the main partner to this project and has performed various feasibility studies in order to implement ecotourism in the reserve area. Additionally, it prepared a proposal, based on the community's knowledge, which was presented by Maquipucuna to the SGP in 1998.

University volunteer groups and international cooperation have also assisted the project's efforts. This partnership has allowed the project to harmonize the community's traditional knowledge with new knowledge, resulting in creative solutions (teaching English to the community) and innovative practices (ecological training on native flora and fauna).

Since 2003, the Yunguilla community has been a member of the Ecuadorian Association of Community-Based Tourism (ASEC), which is in charge of networking community-based tourism initiatives. This relationship gives the community access to training and promotion of tourist operations.

LESSONS LEARNED

Environmental Management

The sustainability of ecotourism proposals depends to a great extent on the availability of economic resources. This fact demonstrates the need to promote complementary productive projects capable of generating income and to replicate the experience and achieve self-management.

It is necessary to accredit the quality of the products through official certification schemes, and to create and participate in distribution channels that allows the sale of these products to be sustainable.

Barrier Removal

In order to achieve sustainable development, grassroots organizations must establish some sort of community property rights over the resources so that they must be kept in good condition and managed in such a way that they don't deteriorate and disappear. Partnerships with NGOs and government bodies can assist in establishing these rights.

The project time did not allow for the project to achieve the scaling up required to enter local, regional, and even international markets, or to develop relationships with institutions and implement actions that transcend the local boundaries.

Scaling Up

Neighboring communities have organized themselves. The community has visited them and delivered motivational presentations, but no alliances have been made and no integral proposals have yet been formulated from these interventions.

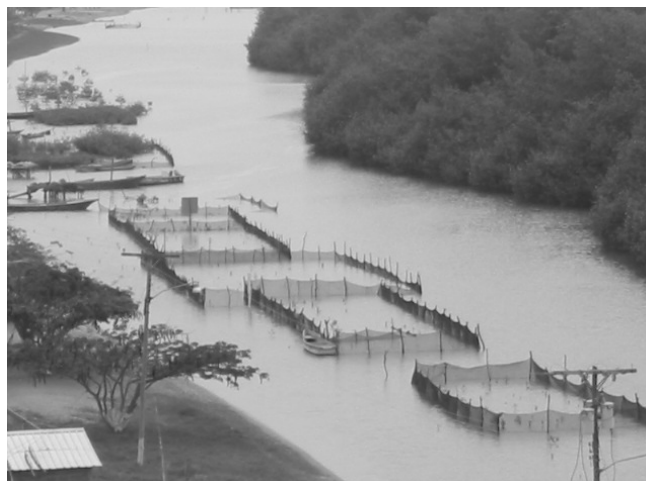
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Sustainable Mangrove Management, Stewardship, and Reforestation, Ecuador

Themes

- Catalyzing the sustainability of protected areas
- Mainstreaming biodiversity in production landscapes and sectors
- Technical capacity development
- Institutional capacity development
- Poverty alleviation (MDG 1)
- Gender equity and empowerment (MDG 3)



Clam and crab recovery in the mangroves of the Island of Costa Rica (Ecuador).

PROJECT DATA

Project Name: Sustainable Mangrove Management, Stewardship, and Reforestation

Implementing Organization: Association of Traditional Fish & Shellfish Fishers of Costa Rica

Project Location: Costa Rica Island, Santa Rosa Canton, Jambelí Parish, Province of El Oro, Ecuador

Ecosystem Type: Coastal, Marine, and Freshwater Ecosystems

SGP Contribution: US\$ 28,124.00

Start Date: 2001

BACKGROUND

The community of Costa Rica is composed of 63 families with a total of approximately 300 inhabitants who depend almost entirely on the mangrove forest as their main source of income. Pressure exerted on the mangrove has degraded (and in many cases destroyed) shell and crab fishing in the area, ancestral uses of the mangrove, and has caused increased migration to urban centers.

Other problems identified in the area are: the disappearance of the mangrove ecosystem; scarce representation of women in the community organization; lack of environmental education among the population; contamination of surrounding beaches due to improper pork-raising; waste mismanagement; use of toxic substances in traditional fishing areas; and ocean contamination due to hydrocarbons.

With the goal of halting the unregulated use of natural resources, and the subsequent decimation of marine species and decrease in fishing yields, the organization launched a campaign to save the mangrove. Toward this end, the organization monitors the mangrove, manages its use, and organizes community-based self-management mechanisms.

PROJECT DESCRIPTION

Summary

The project seeks to assist the community of Costa Rica in the integrated management of the mangrove. To this end, it established the following objectives:

- Include women in project activities and create gender equity awareness;
- Protect some 520 hectares of mangrove on the Island of Costa Rica;
- Train members of the Costa Rica Association in the sustainable management of the mangrove ecosystem and corresponding environmental problems;
- Reforest 50 hectares of mangrove and repopulate 39 hectares of mangrove with black and "macho" clams;
- Build pens to harvest red mangrove crab.

Implementation

The first stage of the project consisted of training organization members and their families through group discussions and workshops. Training and technical assistance covered organizational management, partnership building, gender equity and environmental management. Emphasis was put on developing participant skills through field practice sessions.

Technical training was oriented around sustainable management and preservation of biodiversity, accountability, and clarification of the roles and responsibilities defined in the organization's mandate. Training workshops were organized to teach the participants to manage the area and to develop forestation and reforestation skills and were supplemented by garbage collection excursions.

Additionally, 50 hectares of mangrove have been earmarked for reforestation. The area was cleared and mangrove seeds collected, selected, sowed and planted. Direct sowing (planting seeds three or four days after collection) was used due to its record of success. Women

began to work in technical activities such as reforestation and clearing.

Finally, 39 hectares of mangrove were repopulated with black clams (*Anadara tuberculosa*) and "macho" clams (*Anadara similis*). Pens were constructed in coordination with CATCO (Collection, Transformation, and Marketing Center) to harvest and repopulate the area with red mangrove crab.

Environmental Benefits

This project, geographically located in a region with a great marine and land biodiversity, yields significant environmental benefits and prospects for the region's population among scarce development opportunities.

The area has been negatively affected by mangrove deforestation for commercial shrimp tanks. After a great deal of effort, the community managed to get the Ministry of the Environment to put 519.79 hectares of mangrove under its protective custody.

Clam repopulation in the area has improved traditional livelihoods that were dangerously close to disappearing due to the deterioration of the ecosystem. The number of species per square meter has since increased and the production density jumped from 0.7 to 3.0 clams per square meter (reaching up to 5 clams per square meter in some places).

Local Livelihood Benefits

This project resulted in the repopulation of clams and crabs, both of significant commercial value. Clam and crab production is now part of the subsistence plan (food security), reducing pressure on mangrove resources and generating tangible economic benefits.

Women's participation has grown to 25%, their self-esteem has been significantly enhanced, and they now participate both in project activities and as directors of the Association.

National Benefits

Management initiatives were extended to local authorities and other actors including the "9 de Octubre Association". Such contacts and the development of such a network were deemed necessary to promote ecosystem conservation nationwide.

A number of local producer organizations and other NGOs have also expressed an interest in joining an organized commitment toward the sustainable management of coastline resources. The "El Oro" Union of Artisan Fishing Organizations (UOPAO) has requested that the association participate actively in their efforts to manage the region's fishing resources. While UOPAO has also invited the association to participate in its projects, a

similar relationship is developing with the Municipality of Huaquillas to involve the community in its official tourism plan.

Finally, the association has entered into an agreement with the Municipality of Santa Rosa to develop programmes to benefit the community, both on a direct and decentralized basis. To this end, the association met and consolidated some commitments with heads of department, directors of parish boards, and heads of community affairs.

Participants

The main participants in this project were the community members of Costa Rica, composed of 70 native families. The "9 de Octubre Association" was also involved in the project to guard and reforest the mangrove, with the 50 families that compose it among the indirect beneficiaries of the project.

Capacity Building

The association was trained in various techniques of shellfish harvest (clams and crabs) with practical sessions on monitoring growth to discern the appropriate size for premium market yields. Crab pens were improved and members taught how to clean them. The women who decided to take charge of this activity were duly trained and taught a business approach to producing and marketing shellfish.

The project integrated traditional community knowledge with modern techniques, resulting in new practices to preserve the mangrove and new techniques of generating revenues to raise living standards.

Women involved in the project are in the organization and have been integrated into the community's productive activities. Through direct participation in project activities, women have gained representation and now occupy a seat among the directors of the association.

Partners

The Costa Rica project approached the PROMAR Association, an organization closely linked to the province of El Oro, to discuss protection of the mangrove areas (prevent entry of thieves, shrimp poachers, and mangrove fellers). To this end, they partnered with the Marine Corps to ensure better surveillance of the protected area.

Additionally, cooperation agreements were signed with the following organizations in order to leverage the capacity, abilities, and self-esteem of women in the region:

El Oro Women's Movement: Agreed to serve as the international fundraising base to promote the integration of women into the region's economic development activities.
Arco Iris Foundation: Through a project called "Sustainable Promotion and Development of the Ecuador-Peru

Borderline Mangroves” the foundation broadened the coverage and influence of activities and initiatives.

Technical University of Machala: Lent support to the reforestation effort and to exchange experiences with students and hired technicians.

Finally, the project involved local institutions like the Provincial Council of El Oro, the Municipality of Huaquillas and the Municipality of Santa Rosa, all of whom lent support to the project.

LESSONS LEARNED

Although the project did not reach the mass-marketing stage, families did individually market some products. Attempts to market products at a regional level were met by barriers to access. A project is currently under development to partner with other communities in the area to achieve the scale necessary to break into the commercial market.

Environmental Management

The communities are aware of the need to preserve the mangrove. This project provided the community with a sustainable system to protect the mangrove by establishing a regulated fishery. Revenue generated from raising black clams in captivity and red crabs along the island's beach front created an incentive for the community to ensure the health of the mangrove. This system has also allowed the community to access and capture crabs, a source of revenue previously not capitalized on. All these activities have helped the community understand their responsibility for the custody of these areas and that they are part of the mangrove wetlands ecosystem.

Replicability

Other inhabitants replicated the association's experience as independent entrepreneurs. They built individual harvest pens on their beachfront property, increasing household income while the protected area and the harvest pens remain under the collective custody of the community.

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Native Plant Recovery by Lupaxi Convalecencia, Cintaguzo, and Pulucate Alto Communities, Ecuador

Themes

- Mainstreaming biodiversity in production landscapes and sectors
- Technical capacity development
- Institutional capacity development
- Awareness, culture, and practices
- Poverty alleviation (MDG 1)
- Gender equity and empowerment (MDG 3)

PROJECT DATA

Project Name: Native Plant Recovery by Lupaxi Convalecencia, Cintaguzo, and Pulucate Alto Communities
Implementing Organization: Lupaxi Convalecencia Town Council and the women's association of each community
Project Location: Province of Chimborazo, Ecuador
SGP Contribution: US\$26,689.00
Start Date: 2002

BACKGROUND

The communities of Lupaxi Convalecencia, Cintaguzo and Pulucate Alto are located in northern Colta Canton. Deteriorating living standards and high migration rates (particularly among men) have resulted in low productivity, soil fertility problems, and loss of biodiversity.

A lack of knowledge about the benefits of and the limited marketing opportunities for Andean native tubers and cereals such as *mashua*, *oca*, *melloco*, *quinua*, *blanca* and carrots, have led to low crop performance and, in some cases, their gradual disappearance. Both men and women realize that the loss of strategic natural resources affects the family and the community, generates poverty, migration, family disintegration and a loss of culture. With these consequences in mind, these communities set out to recover native resources and ensure food security.

PROJECT DESCRIPTION

Summary

The project, initiated by three women's organizations from the Lupaxi-Convalecencia, Cintaguzo and Pulucate Alto communities, has been devoted to the recovery of native agricultural varieties to diversify agricultural production and ensure food security by managing crops on an agro-ecological basis. Additionally, the project aims to rescue and increase the production of native forest plants for use as wind-breaking curtains and live fences. Project activities complemented efforts to strengthen women's



Food security and crop diversification is achieved through recovered agricultural techniques, tubers, and cereals (Ecuador).

organizations also created under the project, promoting women's leadership, training and development of individual and collective skills.

Implementation

The project began first with a decision by the women's groups to organize themselves formally and their subsequent legal consolidation. This was an important step to be able to count on NGOs and government institutions for financial support.

The training module was implemented through workshops and courses covering SGP policies and strategies, leadership, parliamentary procedure, administration, financial resource management, community management, women's rights and nutrition. With regard to technical training, courses included seed identification, soil preparation, use of chemical fertilizers, greenhouse installation, and native plant production, pruning, and thinning.

With technical support from the Ministry of Agriculture, the project initiated the Native Seed Experiment Center in Lupaxi Convalecencia. The Center worked toward the recovery of ancestral preservation techniques with tubers, cereals, medicinal plants, and native forest plants. Some of the native tubers and cereals recovered included *melloco*, *mashua*, *quinua*, and potato. For protection purposes, and in order to better manage the land in the project areas, a community greenhouse was installed in Lupaxi Convalecencia to produce native forest plants at a capacity of 30,000 plants per year. They also planted medicinal plants not found in the area previously.

Environmental Benefits

Positive environmental benefits stemmed from the management and recovery of the native tubers, cereals and forest species and their growth in agricultural parcels. Peasant families, motivated by their training and practical demonstrations, have been able to minimize, and in some cases eliminate, the use of chemicals in their plantations.

Local Livelihood Benefits

The project has demonstrated that families achieve food security and accrue savings by managing their parcels directly. Money saved from food production can be invested in education, health, and transportation. Additionally, surplus tubers have been marketed in local markets, generating funds and resources for the organization. The proposal managed unprecedented inter-generational integration, a positive development that generates new (and sustains traditional) knowledge.

National Benefits

Experiences generated from the project constitute a rejuvenation of ancestral knowledge in service of the preservation of native Ecuadorian species. These experiences have been shared with other groups through agricultural fairs and events where seeds are shared among community members.

The project is compatible and consistent with the country's agricultural and livestock policies, which seek to "meet the demand for agricultural and livestock products through incentives that raise the productivity rates and production volumes, as well as to ensure food security for the general population". This congruence is a consequence of scaling up, where local interventions have not only been relevant to participating communities but also in informing and shaping national policies.

The project also scaled out lessons to other communities and the provincial government of Chimborazo which supported the recovery of native forest biodiversity by providing technical assistance for agro-forestry systems. The results of local community interventions were subsequently integrated into the results of the Development Plan of the Province of Chimborazo.

Beneficiaries

There were 373 direct participants (162 men and 211 women) who benefited from their new roles as heads of households and as community leaders. In addition to family benefits, indirect beneficiaries number approximately 2,250 people. The Epicachima General School has instituted a training programme in nutrition and cooking of food for children.

Capacity Building

The project has produced an increase in family and community assets through agro-forestry systems. To increase their equity families planted forest species and have successfully managed to diversify their production with native Andean tubers and cereals.

The communities see clearly the value of training in the progress being made. The community has acquired new knowledge, gained new skills, and wishes to continue receiving training in economic and administrative areas.

Partners

The project relied on technical support from the Ministry of Agriculture, which sent an expert agronomist to help the communities implement agro-forestry systems. The Chimborazo Polytechnic School (ESPOCH) trained project promoters and the project coordinator.

The women who participated in the project were able to attract numerous public and private institutions with their proposal. The local university, provincial and municipal governments, women's organizations, financial intermediary cooperatives, and international agencies all supported the project by contributing personnel, technical assistance, training, supplies, and political guidance.

LESSONS LEARNED

Environmental Management

The community is aware of the economic and health benefits resulting from production without chemicals. It is also aware, however, that it is producing small quantities and that the price paid by the market is not enough to cover production costs. In light of these hurdles, it would be advisable for similar projects to formulate strategies to penetrate selective (green, organic, or fair trade) markets.

The strategy of working in small community-based parcels with all of its strengths and benefits also has its weaknesses. As mentioned, recovered native products produced on such a small scale are not competitive in the (regular) market. They are vulnerable to adverse weather conditions, biotic factors, and have more of a tendency to become home consumption and subsistence crops. The result is low economic performance which can lower incentives for continuing the production process.

Farmers view native product recovery from a profit margin standpoint rather than that of food security. It is advisable that proposals then include a component devoted to opening markets and positioning the recovered products.

In relation to training, while courses covered organizational, administrative, and technical skills, the training was at times not adapted to the emerging needs of the women involved in the project. Training courses must evolve with the

project and respond to emerging demands, obstacles, and challenges.

Barrier Removal

The benefits derived from the experiences, lessons, and knowledge gained from the project had the effect of strengthening women's associations. Practices and techniques promoted by the project generated the security and the confidence to push forward. Families were involved at every stage of the process and participated actively in strengthening the organization, conserving biodiversity, preserving the soils, and growing native plants.

Progress was made in women's participation and this was especially noticeable in the comfort with which women expressed themselves. This confidence was enabled by the project's sustained efforts at creating an environment where women felt safe and comfortable speaking their minds.

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Sololá Association of Organic Coffee Producers (APOCS), Guatemala

Themes

- Mainstreaming biodiversity in production landscapes and sectors
- Linkages with other environmental goals
- Financing mechanisms and private sector involvement
- Institutional capacity development
- Poverty alleviation (MDG 1)
- Health (MDGs 4-6)

PROJECT DATA

Project Name: Sololá Association of Organic Coffee Producers (APOCS)

Implementing Organization: Guatemala World Neighbors

Project Location: Atitlán Lake Basin, Sololá, Guatemala

Ecosystem Type: Mountain ecosystem

SGP Contribution: US\$29,621.00

Start Date: 2000



Organic coffee production is complemented by efforts to reduce the contamination of water sources from pesticide and fertilizer run-off (Guatemala).

BACKGROUND

Decreases in international coffee prices have led to the abandonment of large extensions of plantations in this region and to the unemployment of thousands of people. Because these plantations are abandoned, the forest layer that would be used to protect the coffee disappears, resulting in deforestation and a loss of biodiversity. Deforestation stems from conversion to clear-cut crops which farmers are forced to plant in pursuit of alternative livelihoods.

These changes trigger social and production stagnation, a chain of events leading to reduced quality of life, unemployment, and ultimately the illegal immigration of thousands of peasants into the cities and across neighboring borders.

Coffee production is also affected by internal factors such as production costs, value added, and competition, as well as the external demands of quality standards required by international markets.

Environmental degradation and contamination from agrochemical waste complicates and threatens the short and long-term health of inhabitants of the country's coffee-growing areas.

PROJECT DESCRIPTION

Summary

Residues of chemical pesticides and fertilizers used as raw materials in the production of coffee too regularly run-off into water sources and groundwater. The main project objective was to reduce contamination of water sources flowing into the Atitlán

Lake. The problem stemmed from chemical pesticides and fertilizer (used in the production of coffee) run-off. The project also aimed to eliminate several dispensable steps in the marketing chain of both organic and conventional coffee.

Implementation

The first step of the project involved the creation of a second-tier organization to promote meetings and discussions of common interest to coffee producers. The organization, Sololá Association of Organic Coffee Producers (APOCS), brought together seven community-based organizations that joined efforts to promote sustainable development and environmental protection projects in the basin.

The project also supported community-based organizations in the construction of 18 wet, and four (dry), processing plants for the post-harvest processing and marketing of organic coffee.

The project similarly established a certification process for parcels producing organic coffee. In assistance through the certification process, the project provided training, field inspections, and support in completing the necessary forms.

The organization now exports small volumes of organic coffee to Europe and the United States of America through the world movement known as 'Fair Market'.

Similarly, through World Neighbors, the organization groups trained local inhabitants into "technical crews" to support groups of farmers making the transition to organic coffee-growing and ecologic processing.

Environmental Benefits

More than 108 hectares of coffee plantations have been preserved. Without this intervention, the wet subtropical forest that provides shade to the coffee plantations would have long disappeared. Local farmers would have been forced to use the land for products not requiring such shade.

Additionally, local producers (on their own initiative) have become involved in the ecologic/organic production of coffee, protecting basin areas covered by the belt of forests that protect coffee plantations. Reduced chemical inputs for agricultural production have also reduced contamination levels in water sources feeding the Atitlán Lake.

Local Livelihood Benefits

Environmentally-friendly production and marketing of coffee has opened a sustainable option to increase family incomes and improve the quality of life of community members involved in the project. APOCS members currently receive 40% more for their products than traditional coffee growers still using agrochemicals in their production.

Reduced use of toxic chemicals used in agricultural production ensures a lower risk to the producers and communities of the Atitlán Lake Basin of related health problems and related diseases.

National Benefits

The integration of several community-based organizations with various levels of coverage and capacity has allowed them direct access to technical and financial support that would be unavailable on an individual basis.

Being part of the Guatemalan National Agrarian Platform also allowed the Consortium and APOCS to be active in

the political arena and influence decision-making processes that affect them directly.

Beneficiaries

The project directly benefits 700 coffee growers and their families who live around the Atitlán Lake basin. They have organized themselves into community groups and municipal associations to achieve equitable conditions for the production and marketing of the coffee.

Residents of the area benefit from the environmental conservation resulting from the project. Finally, because the forest coverage has been preserved and the use of agrochemicals reduced, many residents and migratory animal species (mainly birds) habitat needs.

Capacity Building

The technical capacity of local farmers has been strengthened. They are now capable of producing more coffee, have improved the quality of their product, and have enhanced their marketing strategies.

The project similarly strengthened organizational capacity and the ability of producers to act jointly across geographic boundaries, different ethnic groups, and different cultures.

The seven organizations that compose APOCS have a well-developed training and technical advice system for the production of organic coffee that places them in a favorable position to collectively seek alternatives in the production and marketing of their coffee.

Partners

The main partners of the programme are: the Sololá Association of Organic Coffee Producers (APOCS), composed of 501 indigenous peasant families belonging to 3 Mayan ethnic groups; World Neighbors, an NGO that supported the creation and training of technical crews to support transition to organic coffee growth; the community-based organizations formed by the farmers themselves; and the coffee production organizations located in the watershed of the Lake.

LESSONS LEARNED

Environmental Management

APOCS members work tirelessly to produce high quality coffee with an eye to acquiring the best possible prices in international markets. The focus is very much on quality as a means of giving their coffee a comparative advantage.

The project and association have demonstrated that knowledge transfer works better when promoters use their own parcels of land to demonstrate the effectiveness of organic technologies. Because they live in the same community, speak the same language, and have more time

to follow-up directly, this technique proves the most effective.

Early field inspections have also proven critical to success. Inspection reports provide guidelines and describe the actions necessary to achieve certification. The certification process requires producers to have adequate and updated records which can also be facilitated with minimal effort.

Additionally, a first step in coffee-growing is to erect "live fences". This component, key in the certification process, ensures the parcel is isolated. This practice must be a high priority for producers whose individual parcels are located among non-organic producers.

Barrier Removal

Local organizations of small producers must build alliances with groups facing similar challenges and those with similar objectives. This improves negotiation capacity, allows producers to offer larger volumes, and broadens production potential.

Scaling Up

The key elements identified for the successful replication and continued success of this project included:

Production and territorial integration and, in turn, coordinated production of coffee. Integration of activities, processing, quality control, and marketing of the product all contribute to the project's overall success. Integration also establishes local links between municipal community-based organizations throughout the country. International links with organization like the FairTrade Labelling Organizations (FLO) have also been extremely beneficial.

The promotion and creation of alliances between organizations and individuals with compatible objectives.

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ForesTrade de Guatemala, Guatemala

Themes

- Catalyzing the sustainability of protected areas
- Mainstreaming biodiversity in productive landscapes and sectors
- Financing mechanism and private sector involvement
- Technical capacity development
- Institutional capacity development
- Poverty alleviation (MDG 1)

PROJECT DATA

Project Name: ForesTrade de Guatemala

Implementing Organization: ForesTrade

Project Location: Sierra de las Minas Biosphere Reserve, Guatemala

Equator Ventures: Investment

Ecosystem Type: Cloud Forest

Natural Resources Conserved: Endemic birds and reptiles; *Persea schiedeana*, *Quercus purulhana*, *Abies guatemalensis*, *Cornus disciflora*, *Parathesis vulgate*, *Magnolia guatemalensis*, the Quetzal, horned guan, harpy eagle, jaguar, puma, onza, ocelot, margay, red brocket, the howler monkey and Baird's tapir

Start Date: 1996



Local organic coffee produced in endangered cloud forests is networked to international markets (Guatemala).

Reserve divides the eastern zone of the country into a humid region to the north and a very dry region to the south.

Historically, the communities in ForesTrade's Biosphere Coffee Programme have been isolated and underserved. Producers in this region have often had to sell their coffee at far below market prices to middle men (*coyotes*) who took advantage of the socio-economic conditions prevalent in the region: low education levels, lack of fluency in Spanish, extreme isolation, and little or no access to alternative markets. Due to the low margin of earnings for these producers, very few of these communities have been able to develop sufficient processing infrastructure to allow the farmers to consistently produce a high quality coffee for placement in the international market. Traditional slash and burn agriculture, the lack of sufficient incentive to engage in sustainable agriculture practices, the lack of close market links for export crops, has created a great deal of vulnerability to the core zone of the Biosphere Reserve.

BACKGROUND

The project is located within the Sierra de las Minas Biosphere Reserve, one of the most valuable ecological areas in Guatemala. The high levels of biodiversity, the marked existence of endemic and threatened species and the fact that it is one of the most significant cloud forest in Mesoamerica makes it a place of enormous importance for biodiversity conservation. The Sierra de las Minas Biosphere Reserve is located in eastern Guatemala and encompasses a mountain range that runs south to northeast, cutting across the department of Baja Verapaz, El Progreso, Alta Verapaz, Izabal, and Zacapa. In legal terms, the reserve, including the buffer zone, has an approximate area of 236,300 hectares. It has enormous altitude variations, ranging from 150 to 3,010 meters above sea level. The geographic isolation and varying altitudes have given rise to enormous diversity of flora and fauna.

The cloud forest, which covers 1,300 km, represents the most complex cloud forest extension to Mesoamerica. The northern part of the protected area abruptly descends toward Polochic Valley. On the western side, the altitude exceeds 2,000 meters above sea level. There is a gradual decline east toward the Motagua River and Izabal Lake valleys. The southern highland terrain is not as rugged and thus is most accessible. The Sierra de las Minas Biosphere

PROJECT DESCRIPTION

Overview

ForesTrade de Guatemala is a successful and mature business, which manages complex logistics for several unique agroforestry and non-timber forest products (NTFPs) delivered from over 50 communities. It is a leading international trading company that specializes in the production and commercialization of organic spices, essential oils, vanilla, and organic and Fair Trade coffee.

Implementation

Thomas Fricke and Sylvia Blanchet founded the company in 1996 with the mission to serve as a commercially-viable vehicle for promoting sustainable agriculture, natural

resource conservation, and socio-economic development around the world. ForesTrade now has field operations in Indonesia, Guatemala and Grenada, as well as North American and European marketing and sales offices in the United States and the Netherlands. The company has extensive office and processing facilities in Coban, Alta Verapaz, the commercial and export centres for spices and coffee in Guatemala. Over the last eight years, ForesTrade has systematically set up production partnerships for certified organic cardamom, all-spice, coffee, ramon nut, annatto and vanilla with predominantly indigenous Q'eqchi and Pokomchi Mayan communities and community forest concessions in the departments of Alta Verapaz, Baja Verapaz, and El Peten.

Technology

As part of ForesTrade's Biosphere Coffee Programme, producers and ForesTrade technicians have worked together to achieve the highest quality product possible under extreme climatic conditions. To this end, approximately 150 solar dryers have been placed in strategic locations in the communities. This appropriate technology has an almost zero negative impact on the environment, while allowing the producers to significantly reduce the moisture levels of their coffee prior to delivery to a centralized location. ForesTrade is seeking funds to partner with the Guatemalan NGO Fundacion Solar to develop a more efficient and effective solar dryer design. Improvements on this model will be made and it is hoped that all solar dryers being used by ForesTrade partner-producers will be improved based on Fundacion Solar's efforts. These improvements will further reduce moisture levels in product prior to delivery to the collection centres, which will in turn further reduce the energy used in the final drying stage.

Prior to ForesTrade's presence, the great majority of partner-producers in ForesTrade's Biosphere Coffee Project processed their coffee with little or no technology. Approximately 90% of the producers used hand mills to depulp the cherries, while 1% used stone grinders. 100% of the coffee was sun-dried on home patios. Due to the challenging climatic conditions of the Sierra de las Minas, where there is an average rainfall of three metres per year, it was unquestionably difficult for these producers to achieve a consistently high quality in the finished product. This lack of consistency resulted in significantly lower earnings, which due to varieties grown and altitude of production, should receive a higher price. Due to isolation and an adherence to traditional farming practices, production areas selected by ForesTrade for the Biosphere Coffee Project are by and large "natural", with virtually no prior history of chemical inputs, but lacking the implementation of organic and sustainable practices such as live barriers for soil conservation or soil fertility management.

Environmental Benefits

Global: Sierra de las Minas shelters approximately 885 species of mammals, birds, and reptiles, which represents 70% of the species registered in Guatemala and Belize. The different elevations and climate conditions in the protected area mean the mountain range operates similarly to the so-called "genetic evolution islands" with a high presence of endemic species. In the protected area, there are 21 species of regional endemic birds and a high diversity of reptiles. The cloud forest is an area with unique biological diversity that has an enormous variety of endemic and threatened species.

Local: According to the IUCN Red List, *Persea schiedeana*, *Quercus purulhana*, *Abies guatemalensis* and *Cornus disciflora* are species at high risk of extinction, with *Parathesis vulgate* and *Magnolia guatemalensis* classified as threatened species due to the collapse of their habitat. The reserve also shelters species of fauna that are threatened and have restricted distribution. The cloud forest is the habitat of the Quetzal and the horned guan, two species that are protected along with the harpy eagle, which is nearly extinct. There is also a significant presence of felines, including the jaguar, puma, onza, ocelot and margay. Other mammals include the red brocket, the howler monkey and Baird's tapir. Several of these mammals are included on the IUCN Red List and CONAP Red List placed the Baird's tapir in serious risk of extinction.

Local livelihood benefits

Employment: The farmers in ForesTrade's Biosphere Reserve Sierra de las Minas Coffee Programme have embraced the opportunity to sell a high quality certified product in the international specialty coffee market.

Improved local opportunities: ForesTrade has over 1,978 individual producers in 53 communities creating employment opportunities, access to markets, and increased incomes.

Income generation: ForesTrade will help already certified organic and Fair Trade Q'eqchi and Pokomchi coffee micro-producers to enter into a niche premium market for Rainforest Alliance (RA) certified coffee, resulting in the farmers receiving a premium price for their finished product. This premium price will give the farmers the incentive to engage in sustainable agriculture practices that will be verified through the annual renewal of the RA certification, thus resulting in greater regional biodiversity protection in Sierra de las Minas.

Regional and National Benefits

Demonstration effects: The farmers have moved from selling low-quality, semi-wet parchment rife with defects to local middlemen, to placing a high-quality, finished product with few defects in the international specialty coffee market.

Capacity building: In the Sierra de las Minas Biosphere Coffee Programme, ForesTrade employs six full-time field technicians as well as a Coffee Project Coordinator. These technicians work full-time in participating communities to train partner farmers in soil conservation, fertility, shade and pest management, and pruning techniques. There is significant time devoted to helping farmers improve the quality of their finished product through proper grain selection and elimination of defects through improved post-harvest handling.

Technical capacity: Technical assistance by ForesTrade field staff has resulted in significantly improved sustainable production processing practices, resulting in a high quality, mainly Hard Bean finished product.

Beneficiaries

The key beneficiaries are the Q'eqchi and Pokomchi communities and the other traditionally isolated and underserved communities of farmers that benefit from the technical assistance and marketing provided by ForesTrade.

Partners

The formation of both coffee associations was based on the collaborative efforts of several organizations, including: PRODEVER, Centro para la Integracion Familiar, Coopi-Movimondo, CARE, and Vecinos Mundiales (World Neighbours).

LESSONS LEARNED

Environmental Management

ForesTrade demonstrates the capacity for biodiversity conservation given the proper economic incentives, technological assistance and community participation. ForesTrade achieves a sustainable balance by: paying partnering farmers for adhering to sustainable and organic agriculture practices; furnishing agreements and partnering with producers who agree not to clear-cut and to honor core protected areas (with severe penalties for regulatory deviation); reinforcing the harvesting of non-timber forest products such as nut, all-spice, *chicle* and ornamental plants; and implementing reforestation projects in producer communities.

Barrier Removal

Financial: ForesTrade and the coffee producers will seek support from the Government of Guatemala 'GuatelInvierte', a loan guarantee programme that will assist in the securing of low interest loans for crop management, infrastructure expansion, and working capital funds. For local coffee growers and other local farmers, financing to expand markets and efficiency does not flow easily from banks. Outside funding facilitates technical development by way of certification and other processes that allow growers to fetch higher prices for their goods on, and by extension provide access to, international markets.

Technical: It was previously difficult for producers to achieve a consistently high quality in their finished product due to ineffective drying techniques and limited access to antiquated technology. With ForesTrade technical assistance by way of solar dryers and other such technical capacity development assistance, producers yield a higher quality product in a more efficient fashion.

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Maya K'iché Ecotourism, Guatemala

Themes

- Catalyzing the sustainability of protected areas
- Mainstreaming biodiversity in production landscapes and sectors
- Financing mechanisms and private sector involvement
- Institutional capacity development
- Awareness, culture, and practices
- Poverty alleviation (MDG 1)



An ecotourism center with nature paths provides income generation opportunities for the Maya K'iché (Guatemala).

PROJECT DATA

Project Name: Maya K'iché Ecotourism

Implementing Organization: La Guadalupeña Traditional Agricultural and Livestock Association

Project Location: Village of El Novillero, Santa Lucía Utatlán, Sololá, Guatemala

Ecosystem Type: Mountain ecosystem

SGP Contribution: US\$21,677.00

Start Date: 1998

responsibilities to consolidate an organizational base for the sustainable operational of the project.

After this was achieved, the project focused on workshops in capacity building and teamwork, promoting the participation of men, women, and youth and assigning them equal responsibility.

The next step involved construction of the ecotourism center, from design to decoration. The final stage of the project required construction of peripheral services and structures: nature paths, viewpoints, and signage. The project now concerns itself with the regular maintenance of the ecotourism center and improvement of services.

BACKGROUND

The inhabitants of the Santa Lucía Utatlán municipality belong to the Maya K'iché ethnic group. The Maya K'iché consist mostly of poor farmers, and food security depends on the corn and beans they plant. Soil productivity in the region is limited, characterized by non-cultivable soils appropriate predominantly for permanent grasslands or forests.

The region has been damaged by the uncontrolled felling of trees, household use of timber to cook, induced forest fires, and illegal hunting of native animal species. The result has been the steady destruction of the forest.

Environmental Benefits

The project has created among its members and the wider community a culture of respect for the physical environment.

Through ecotourism, the project conserves 32 hectares of forest in the northern Lake Atitlán basin in addition to the 8 hectares of forest registered by the 'National Forest Incentive Programmes' of the National Forest Institute. Further, the project contributes to the conservation of the protected areas adjacent to the project zone.

PROJECT DESCRIPTION

Summary

The project aimed at establishing a rural ecological tourist center that would promote the harmonious coexistence of the Maya K'iché with the natural environment. The strategy involved providing tourist services to the public leading to produce income generation opportunities to community inhabitants while promoting a culture of environmental conservation.

Implementation

The first stage in the project was the establishment of an organizational structure for the association. Commissions were convened with corresponding tasks and

Local Livelihood Benefits

The evolution of the implementing organization, from a community improvement committee to an association generating income and preserving forest resources, has strengthened social cohesion of community members.

Association members share in annual revenues generated by the organization from its various production sources, raising the standard of living of members and their families.

National Benefits

The project has achieved respect and credibility among local authorities and neighboring communities as a successful example of perseverance, community action, and innovative business enterprise.

An exemplary organizational structure allows the association to exert influence in public matters relevant to its constituents.

Beneficiaries

The project directly benefits 74 members, including 26 women, of which some benefit from the jobs generated while others benefit from annual profit distribution. Indirectly, the remaining local population and neighboring communities receive various environmental benefits.

The fact that forest areas have been freed from human intervention has promoted the natural growth and development of plant and animal species.

Capacity Building

Regular workshops and training courses have strengthened the capacities and skills of association members. Courses focused on administrative management of the tourist center and on promoting the equal participation of men and women. Finance, supervision, project promotion, and advertising commissions ensure proper project follow-up by allocating responsibilities to individuals with appropriate skill-sets.

Partners

The National Council for Protected Areas (CONAP) authorized the use of forest inside and around the protected areas. Financial institutions provided the funds necessary to carry out the various field activities.

LESSONS LEARNED

Environmental Management

Distributing responsibilities among commissions (or work teams) proved central to the project's success.

The project demonstrated the value in establishing a proper mechanism and strategy to obtain environmental licenses quickly to avoid delays in fieldwork activities.

Shoring support for the project from local authorities was highly beneficial. Public relations and political lobbying were also necessary to smooth project logistics.

Scaling Up

In terms of future replication, the project would be enhanced if the association owned the property where the physical infrastructure was built. Further, the active and enthusiastic participation of all association members, regardless of the legal status of the implementing organization, is a key factor for success.

Effective horizontal and vertical communication is necessary to develop and effectively coordinate project activities. The organization benefits from a clear mission and vision, reached by consensus among members.

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Association of Forest Communities of Petén (ACOFOP), Guatemala

Themes

- Catalyzing the sustainability of protected areas
- Mainstreaming biodiversity in production landscapes and sectors
- Technical capacity development
- Institutional capacity development
- Poverty alleviation (MDG 1)
- Gender equity and empowerment (MDG 3)



Over 450000 hectares of forest are being used on a sustainable basis to advantage local communities (Guatemala).

PROJECT DATA

Project Name: Association of Forest Communities of Petén (ACOFOP)

Implementing Organization: Association of Forest Communities of Petén (ACOFOP)

Project Location: Mayan Biosphere Reserve (RBM, for its Spanish acronym), Petén, Guatemala

Equator Prize Contribution: 2002 finalist

Start Date: 1998

Implementation

The organization strategy that defined the project was the equitable and active participation of men, women, and youth in community management. Toward this end, the project organized local and regional workshops on subjects of political climate, training, gender, communication, and legal support.

BACKGROUND

During the middle of the 20th century, the Petén Mayan Jungle experienced an immigration boom. Demand on natural and agricultural resources surpassed capacity and immigration was accompanied by national security problems of the illegal trafficking of flora, fauna, and archaeological resources, illegal aliens, and drug trafficking. In 1990, various conservation initiatives resulted in the creation of the Mayan Biosphere Reserve (RBM), an area demarcated to protect nature and preserve the biodiversity and archeological treasures of North Petén. Administration of the RBM was allocated through community-based forest concessions. From the beginning, however, the system was beset by disorganization at the community level. Community members did not receive adequate training, limiting their capacity for effective management and technical expertise in bridging conservation with income generation.

An independent body was created and devoted specifically to activities promoting the participation of women and youth throughout the entire process. As a result, management capacity increased as did the influence of directors in the political and legal decision-making processes governing RBM management.

A parallel strategy involved the training of communities in natural resource management with an emphasis on the technical and administrative dimensions of certification, domestic marketing, and product export. The project placed emphasis on the marketing of forest and non-timber forest products (NTFPs), training courses, technical assistance in forestry, and certification services (through the Smartwood certifying agency). These strategies were complemented by efforts at the diversification of livelihood alternatives beyond forest resources, including crafts and ecotourism.

PROJECT DESCRIPTION

Summary

The project sought to improve the livelihoods of forest communities of the Petén through the sustainable management of its natural resources, the conservation of its natural resources, and self-management by forest communities.

Environmental Benefits

Through the activities of the project, 450,000 hectares of forest are being used on a sustainable basis to advantage local communities. Environmental benefits extend from the conservation of flora and fauna endemic to the region to the protection of a wide variety of ecosystem services. Additionally, forest fires previously recurrent and often the source of extensive damage and land loss have been significantly reduced. Community management has also meant the promotion of non-contaminating organic technologies in the production of local food.

Local Livelihood Benefits

Community members benefited directly and indirectly from project activities and changes in environmental security. The project has allowed for investment in training, infrastructure, and equipment for healthcare centers, positively impacting reproductive and maternal health in the communities. Community members and their families now benefit from the financial security of newly created jobs and revenues received from the annual distribution of profits generated by the sustainable management of land concessions.

National Benefits

The communities holding the RBM forests under concession have achieved a high level of national and international representation and gained through their leaders and representatives a reputation for credibility and trustworthiness. As a consequence, ACOFOP is able to participate actively in policy discourse in areas affecting its constituent communities. Communities are afforded control of migration within the concession lands as well as regulation of the illegal appropriation of lands inside the concession boundaries.

Beneficiaries

The project directly benefits 2,500 members from 22 grassroots organizations in 30 rural communities spread throughout five municipalities of Petén, Guatemala. Project beneficiaries include the member families and community residents who benefit from better quality of life, employment opportunities, and education and health improvements.

Capacity Building

This project stands as one of the largest and most successful forestry projects in Latin America. It has successfully created and sustained a new approach toward forest resources. The communities view the forest as an important part of their livelihoods and therefore manage it on a sustainable basis.

Partners

The Single Union of Rubber Tappers and Wood Workers (SUCHILMA), a community-based organization predating ACOFOP, supported the project from its inception and still hosts the ACOFOP's central administration offices in its facilities. ACOFOP received or receives financial support from the Inter-Ecclesiastic Organization for Development Cooperation (ICCO), the Ford Foundation, the German Technical Social Cooperation Service (DED), the Christian Romero Initiative (CIR), Swiss Cooperation (HELVETAS), and the community-based organizations constituting ACOFOP.

LESSONS LEARNED

Barrier Removal

The consistent and frequent flow of information to and from community members on administrative and management processes has been central to the project's success.

The gender initiative promoted by ACOFOP has found that focusing on women's issues sometimes detracts from their ability to incorporate women into management, administration, and positions of direct relevance to forest stewardship.

There is still scope for ACOFOP to improve its standing in public opinion at the national level. Attempting to infuse community interests into policy debate and decision-making processes is an important aspect for the conservation of natural resources.

Both in Petén and nationally, there has been little dissemination of community-based management successes. A lack on knowledge about the project's actions results in limited popular support for project initiatives. Dissemination of information on successes and failures to the population "en masse" and communities undertaking similar projects in environmental stewardship is of critical importance.

Scaling Up

There are several key elements of the project that stand out as factors affecting the successful replicability of the project. Strengthening of the technical, administrative, and management skills of leaders working actively in the project is a must. The pre-existence of regionally-based trade organizations devoted to forest products and NTFPs (such as the Rubber Tappers' Union in this case) was extremely valuable. The participation of foreign technical assistance organizations was also critical in shoring up political support and developing necessary financial and technical capacity. Finally, active community participation and dedication to the project was a prerequisite that cannot be overstated.

SOURCES CONSULTED

Erick Rolando Cuellar Oliva, Director, ACOFOP. E-mail: erick_cuellar@acofop.org
Cooperación Social Técnica Alemana –DED–Guatemala. Georg Roling, Director de Programmea. E-mail: dedgeorg@intelnet.net.gt
Oscar Murga, Nacional Coordinator, SGP to NGOss. E-mail: ppdguate@intelnet.com
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The Garifuna Women's Ecotourism Enterprise (MUTU), Honduras

Themes

- Catalyzing the sustainability of protected areas
- Mainstreaming biodiversity in production landscapes and sectors
- Institutional capacity development
- Awareness, culture, and practices
- Poverty alleviation (MDG 1)
- Gender equity and empowerment (MDG 3)



"Ecopaths" crisscross through villages and connect ecotourist lodges (Honduras).

PROJECT DATA

Name: The Garifuna Women's Ecotourism Enterprise (MUTU)

Implementing Organization: The Garifuna Women's Ecotourism Enterprise (MUTU)

Location: Municipalities of Balfate and Santa Fe, Department of Colón, Honduras

SGP Contribution: US\$30,000

Start Date: 2003

PROJECT DESCRIPTION

Overview

The Garifuna Women's Ecotourism Enterprise (MUTU) offers a variety of tourist services and cultural products with the express purpose of raising the income of Garifuna women and their families and strengthening (rejuvenating) their cultural heritage.

The project involved enhancing the eco-resorts of Guadalupe and Río Esteban by building an "ecopath" between the two that meanders through the communities of Betulia, Plan Grande, Quinito, Manatí, Miranda, Maguille, and Río Coco. Enhancement of the resorts also involved the construction of two tourist lodges (cabins), a restaurant, and an archaeological museum to integrate *mestizo* communities of the Betulia crag, a group who have managed to preserve the rich biodiversity of the region's watersheds. The lodges, powered by solar energy, feature a number of environmentally-friendly characteristics. Further, the project undertakes the reforestation of the "ecopath" and the training of community members in tourism management.

Implementation

Following hurricane Mitch, the community organized itself in search of solutions and alternatives. They sought help from local organizations (such as OFRANEH) and national and international NGOs. The women organized focus groups around projects in three areas of sustainable development: growing yuca, cassava (*casabe*) production and marketing, and tourism.

By 2001, the women had completed five lodges, three cabins, a gathering room, and a restaurant. In addition, they trained other women's groups in capacity building, community work, tourist services, and accessing markets.

This work was complemented by the exchange of information and experiences domestically and internationally (with Costa Rica and Mexico). Alliances

BACKGROUND

In the wake of the devastation caused by hurricane Mitch in 1998, women of the Garifuna communities created the MUTU network to diversify sources of income. The music and customs of the Garifuna people were declared by UNESCO in 2002 an Intangible Cultural Heritage of Mankind.

The project involved a group of Garifuna women (of African-Caribbean descent) who have been faced with the gradual loss of their ancestral territories, coconuts, and other varieties of biodiversity. The ability of these women and their communities to generate income from the informal sector has, as a consequence, been severely limited.

Ecotourism has emerged as an alternative to natural resource extraction, lessening the burden placed on agricultural yield and reducing the necessity of unsustainable extraction.

The Garifuna culture and the physical geography of the region are both genuine tourist attractions. This group of Garifuna women came up with the idea of designing a series of "ecopaths" along the north coast of Honduras, within protected areas and buffer zones, as a means of generating income for the communities and generating knowledge about the region.

were also forged with the Town Council to manage community issues affecting the project.

Environmental Benefits

The Garifuna projects have instilled in the population a renewed respect for the natural environment. The community's water distribution system has improved, there is a greater spirit of conservation regarding flora and fauna, and garbage recycling campaigns have been instituted. Because the initiative was born in the wake of a natural disaster, the community has developed an acute awareness of the connection between natural disaster impacts and the need to defend and protect water basins.

Local Livelihood Benefits

The initiative is an exceptional model of female empowerment. The women have developed through active participation and positions of leadership strong environmental lobbying skills in defending the community's water resources and in territorial defense negotiations. On top of all the successes of their ecotourism ventures, the women have branched out into garbage management in service of a cleaner and healthier environment.

National Benefits

The MUTU women have demonstrated dogged determination in lobbying the national government and other cooperation agents for improvements in their community and in environmental management. Due to their efforts, the Secretary of Public Works and Transportation has agreed to a range of infrastructure commitments including widening the community road and building a bridge.

Beneficiaries

Direct beneficiaries of the project are the 140 Garifuna women that form the MUTU network who live in the corridor of the Honduras Caribbean. The project has contributed to a diversification of sources of income, reduced pressure on natural resources in the region, and increased the economic alternatives available to Garifuna communities.

Capacity Building

Through the initiative, the MUTU women have followed an entrepreneurial vision. Lodges have been constructed in two communities, constant training is administered to ensure resource conservation, regular revenues are generated from tourism packages, and marketing strategies are being developed to sell crafts and cooking products. Product diversification is being pursued with a view to eventually being incorporated into international community-based ecotourism networks.

While the MUTU women have been successful, they have overcome a great deal of obstacles along the way. Two main barriers overcome to date have been the lack of access roads leading to the communities (and by extension, the lodges) and the omnipresent burden of malaria.

LESSONS LEARNED

Environmental Management

Income generation, strengthening of the Garifuna social fabric, and environmental conservation have been developed in parallel. Support provided to the indigenous communities to establish project foundations were backstopped by a focus on the empowerment of women. Support for income-generation initiatives (in this case, community-based tourism) enhances community potential to solve other problems. A capacity and desire for attentive environmental stewardship is a case in point. From increased income-generation activities, the MUTU women have tackled water issues, garbage management, identity, education, infectious diseases, and environmental degradation.

Scaling Up

The MUTU experience has spread to other Garifuna communities where over 1,500 inhabitants are now replicating the experience of the Garifuna Tourist Eco-Lodge. The project is being replicated with the financial support of the SGP and AVINA. Currently, the communities of Sambo Creek and Punta Piedras are completing the construction of additional tourist lodges.

An innovative and seemingly effective technique has been the use of dance groups, organized by communities joining the MUTU network, as a knowledge transfer conduit.

SOURCES CONSULTED

<http://sgp.undp.org/index.cfm?Module=Projects&Page=ShowProject&ProjectID=6138>

Las Delicias Community-Based Tourism Development Project, Honduras

Themes

- Mainstreaming biodiversity in production landscapes and sectors
- Institutional capacity development
- Poverty alleviation (MDG 1)
- Gender equity and empowerment (MDG 3)



Ecotourism generates investments in environmental education (Honduras).

PROJECT DATA

Name: Las Delicias Community-Based Tourism Development Project

Implementing Organization: Collective Partnership Luis Flores y Asociados - DELICIAS

Location: Las Delicias, Esparta, Atlántida, Honduras

SGP Contribution: US\$12,021.00

Start Date: 2002

Implementation

In addition to its infrastructural components, the project involved the organization of two major community gatherings during which the community would consolidate commitment to the preservation of their natural resources.

BACKGROUND

Las Delicias, a small community of mestizo peasant families, has evolved as a hamlet of some 48 families during the past four decades. The population of Las Delicias is roughly 200, most of whom live under precariously low economic and health conditions (US\$770 per capita, and a 34% malnutrition rate). Jobs are scarce due to low levels of local capital investment and a lack of investment security.

The community has faced challenges in committing to sustainable resource extraction and has found that legal sustainable extraction is not profitable in the face of unfair competition. Other groups illegally access the forest, fell trees, sell the timber at substantially lower prices, and hinder the development of the lawful timber trade.

Women's participation in the community had hitherto been limited to household chores, child rearing, and education. Such social and economic conditions led community members to investigate opportunities in tourism and consider the community's potential to provide tourist services.

The project additionally provided the Santiago Pérez community school with material related to environmental education and preservation. In cooperation with the school, it jointly developed a greenhouse to house 5,000 timber-yielding and fruit trees (avocado, mango, and orange).

Community meetings were similarly scheduled to discuss the project and determine how to best develop community leadership in environmental conservation.

While project activities were carried out according to a set schedule, the process was flexible, adapting to emerging needs such as the purchase (with project earnings) of a lot for parking. The community also opened a convenience grocery store under the ownership of the community's ecotourism committee.

The project invests in ongoing maintenance to the access road, hut roofs, and is investigating the possibility of expanding to include a micro-hotel, a multiple sports field, an office, a recreation area, a swimming pool, and an ecologic path.

PROJECT DESCRIPTION

Overview

This project aimed to leverage the region's natural resources through sustainable ecotourism. The initiative involved human resources training in the areas of ecotourism, management of protected areas, food preparation, basic administration, and customer service. The project involved the construction of six huts (four small, two large), cooking and parking areas, and repairs to some segments of the main access road.

Environmental Benefits

Timber and non-timber forest products (NTFPs) are used on a sustainable basis, preserving ecosystem health and wildlife habitats. The project, while also successful in the short-run, has invested wisely in the future with plans to reforest with the 5,000 plants and trees grown in cooperation with the school.

The project also focused on training the community in soil preservation and techniques to increase land productivity. In combination with other preservation efforts, these training programmes will considerably reduce soil erosion. In addition, water quality has improved as a result of better environmental management.

Local Livelihood Benefits

The project has raised incomes through the sale of tourism-related services and products. The community has become more environmentally aware and has provided school-age children with the skills and knowledge they will need to sustain awareness and sound stewardship.

National Benefits

The initiative has expanded to include the exchange of experiences between groups and other communities. Through knowledge-sharing the environmental and social benefits experienced by this project are effectively disseminated to communities facing similar problems with similar resources. The community ecotourism council has developed internal regulations, making the community more self-sufficient and capable of solving their own problems.

A number of relationships have been forged with donors and cooperation agencies at the national level who have expressed great trust and confidence in the project.

Beneficiaries

The direct beneficiaries of the project are the 24 women members and their families. The entire community has, however, benefited from the provision of educational material on environmental education and improved infrastructure (roads etc). Additionally, when the project files a request with the appropriate authorities for services like the installation of electricity or water utility networks, it does so on behalf of the entire community.

Capacity Building

The project has trained the community in the sale of tourism services with the objective of raising the quality and the competitiveness of the tourist service supply in an area with little previous experience of providing tourist amenities. The project has built facilities such as a visitor center, a food preparation area, dining rooms, and a parking lot. Group members have been trained to manage and administer the funds they raise.

This project has been effective in generating local and regional awareness of the importance of, and value in, preserving their natural resources.

Partners

The project has developed its closest alliances with the Professional Formation Institute (INFOP) and the Association of Municipalities of Centro Atlántida (MAMUCA). Las Delicias has become a model project and, as such, has fostered a significant number of relationships with NGOs and financing agencies.

LESSONS LEARNED

Environmental Management

The community is using its own funds to purchase a forested area to be transformed into a conservation area. As part of this initiative, the community intends to open ecological and educational paths with the ultimate objective being adaptation to sheltered space for wild and semi-domesticated animals.

Gender

The project has demonstrated to populations in the community and the immediate region that women can successfully undertake leadership activities and can contribute to community development and to income-generation.

Barrier Removal

Through local arrangements, the project forged an alliance with MAMUCA, the organization that facilitated the acquisition of land to build the tourist lodges. This alliance subsequently led to the widening of the access road, formerly a barrier to community access.

SOURCES CONSULTED

<http://sgp.undp.org/index.cfm?Module=Projects&Page=ShowProject&ProjectID=6138>

Noh-Bec Administrative Training, Mexico

Themes

- Mainstreaming biodiversity in production landscapes and sectors
- Technical capacity development
- Institutional capacity development
- Poverty alleviation (MDG 1)

PROJECT DATA

Name: Noh-Bec Administrative Training
Implementing Organization: Productos de Bosques Tropicales Certificados NohBec, S.P.R.
Location: Noh-Bec *Ejido*, State of Quintana Roo, Mexico
SGP and UNF (COMPACT) Contribution: US\$29,599.00
Start Date: 2002

BACKGROUND

Since the 1980s, a shift from concessions to community-based management of forests has allowed many *ejidos* in Mexico (common land cooperatives) to reduce deforestation rates. Many *ejidos* (like Noh-Bec) have established areas devoted exclusively to forest-related production. In the process, *ejido* members have learned to manage their resources to generate profits from timber. On the other hand, the importation and sale of non-certified, low-quality timber generates strong competition for the timber extracted on a carefully planned basis from the Noh-Bec *ejido*.

In light of these developments, the Noh-Bec project funded by SGP with support from the United Nations Foundation (UNF) emerged to separate and distinguish *ejido* actions supported by previous donors (see Shanley et al. 2002) from the management of productive activities according to a newly formed community enterprise or local "company" (SPR). As a result of the project, the private "company" and the community *ejido* work in close coordination, promoting a participatory development model with significantly localized power. This has allowed the *ejido* to not only market their products for a profit, but to regulate the commercial and political aspects of timber exploitation in the State of Quintana Roo in the Yucatan peninsula of Mexico.

PROJECT DESCRIPTION

Overview

The COMPACT project sought to improve company operations, raise the qualifications and skills of the SPR's work force, and qualify for certification of its labor units. The projects pursued these objectives through well-defined management criteria, clear and inclusive decision-making processes, optimization of the administrative council,



Forest transect for sustainable certified logging

improved productivity, better quality production, and increased profits by way of long-term commercial relationships with buyers.

Implementation

The formative stage was developed through participatory planning. Participatory workshops were convened around developing a Noh Bec "narrative" and time-line to feed into a community business plan, determining issues of primary importance, proposal preparation, organizational structure, and decision-making processes.

The community enterprise then selected organizations and external companies capable of providing the necessary expertise to adequately train members of the organization. Workshops were conducted in strategic planning, handling of administrative council meetings, machine maintenance (drying, quality control, line production, and woodwork), and the development of products and market technologies.

The implementation stage of the project then contributed to a series of workshops the opportunity to prepare various technical modules, which have been gradually implemented. By way of example, one of the modules addressed the development of administrative software that currently organizes and regulates the company's tree-felling and business activities. For this purpose, the community appointed one member to be trained in strategic business plan development and accounting. This community member is now responsible for the separation of a defined share of the timber profits for re-investment in the operations of the production enterprise.

Environmental Benefits

The project minimizes the uncontrolled extraction of mahogany which, in the past, was the source of serious environmental damage.

The territory has been digitally mapped whereby a grid demarcates an inventory (by hectare) of all mahogany trees and other species ready to be harvested. Greenhouses produce seeds ensuring the sustainability of the activity. Additionally, forest rangers guard the 18,000 hectares of forest from illegal timber poachers.

The Noh-Bec Forest Management Plan, recognized nationally and internationally, has been certified by the SmartWood Programme that operates worldwide through the institutional members of the SmartWood Network. Both the certification and its ratification were facilitated by the restructured Forest Management Plan of 1998.

Noh-Bec reforests the grid areas cleared with greenhouse-grown plants, aiding the natural regeneration process. Noh-Bec also contributes to reduced deforestation rates in the center of Quintana Roo. Satellite photographs present a deforestation rate in the area of approximately 0.1%, as compared to the Biosphere Reserve and International Model Forest area of the Kalakmul Reserve (Campeche) rate 0.39% and the State of Morelos rate of 1.4%.

Local Livelihood Benefits

Through the added value of a new community enterprise, the living standards of *ejido* members and their families have noticeably improved. They benefit from greater access to health services, and their children are provided with the opportunity to study at higher levels than past generations. Profits distributed amount to approximately 22,000 pesos per year (US\$2,200) per *ejido* member.

Increased revenues from international markets and sales abroad, using internet-placed orders, have been reinvested in equipment and machinery to increase productivity and future capacity. The community enterprise now keeps an updated inventory of all wood stocked according to volume available, in order to provide a rapid response time for urgent international orders.

The timber is sold kiln-dried and is classified to distinguish the product from illegally harvested timber. This raises the product value and allows the price to be determined by the company and not by the buyer. Administration of the company has become more efficient and has led to a steady increase in company profits.

National Benefits

Noh-Bec has been recognized as the strongest *ejido* in the state of Quintana Roo and was the first to be recognized as a valid industry representative before the federal and state governments. It participated in the Consultative

Council of the Secretariat of Environment and Natural Resources of the Mexican federal government where it evaluated projects and plans of the state's forest development programme. Additionally, Noh-Bec sits on the consultative council of the federal government's National Forestry Commission.

Beneficiaries

The project has benefited the 2,000 inhabitants of the Noh-Bec community, the 216 enterprise members, and their families. All community inhabitants benefit from the roughly 23,000 hectares of protected forest.

Capacity Building

One of the most important aspects of the project has been the vision in training youth in the community. Due to increased educational opportunities as well as more job security between the *ejido* and the newly constituted private community enterprise, youth remain in the community and are trained as future leaders. Some youth groups already take a lead role in the *ejido*'s administration and in the management plan of the company.

LESSONS LEARNED

Environmental Management

The project demonstrates the viability of integrating the sustainable management of natural resources with a local and indigenous entrepreneurial vision. The participatory planning, training, and technical assistance processes were supported by a collective sense of environmental responsibility, positive identity, and transparency in the management of resources.

Barrier Removal

Workshops attended by members of both the *ejido* and the formal community enterprise were used to develop common positions and to distinguish the work of the wider *ejido* from the needs of growing a private enterprise (thereby allowing an agreed share of the profits to be reinvested in the company business plan). This was a necessary step in establishing parameters for decision-making processes.

SOURCES CONSULTED

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- Raul Murguia, SGP National Coordinator, Mexico
- Julio Moure, COMPACT Local Coordinator, Felipe Carillo Puerto
- <http://sgp.undp.org/index.cfm?Module=Projects&Page=ShowProject&ProjectID=5874>
- <http://sgp.undp.org/index.cfm?Module=Projects&Page=ShowProject&ProjectID=7497>

School of Ecological Agriculture, México

Themes

- Mainstreaming biodiversity in production landscapes and sectors
- Technical capacity development
- Institutional capacity development
- Poverty alleviation (MDG 1)
- Education (MDG 2)

PROJECT DATA

Name: School of Ecological Agriculture

Implementing Organization: U Yits Ka'an, A.C. School of Ecological Agriculture

Location: Municipality of Maní, State of Yucatán, Mexico

SGP Contribution: US\$21,415.58

Start Date: 1999



Bilingual Mayan/Spanish School of Ecological Agriculture (Mexico)

PROJECT DESCRIPTION

Overview

In 1992, a group of parishioners from the Catholic Church of the Archdiocese of Yucatán were driven to implement a development project to respond to marginalization affecting their parishioners.

The purpose of the project was to improve the living standards and production capacity of the Mayan population of the Archdiocese of Yucatán. The project aimed at consolidating an organization to strengthen the spirit of self-help in the community and to develop community capacity in self-sufficiency, food production, and sustainable agriculture.

Toward these ends, the project joined forces with the Ecological Agriculture School to train students (of both genders) in the sustainable use of natural resources to meet basic nutritional needs and improve their economic and social circumstances.

At the heart of the project was a group of "central ecological farms". These farms, operating under the leadership of family groups of Mayan peasants and at least one school graduate, were used to teach courses on agro-ecological production techniques to groups of peasants from neighboring communities.

Implementation

Training programmes have largely focused on a few key dimensions. One of these dimensions is the training of rural leaders and promoters through self-help groups in over 60 communities. Another dimension of the project's training activities is a group of courses on horticulture, apiculture, and the raising of minor animals. A complementary group of courses focuses on sustainable agriculture, soil conservation, compost production, fruit tree introduction, and biological agriculture. To facilitate

BACKGROUND

Living conditions in the state of Yucatan are particularly harsh and burdensome for inhabitants of rural areas. Peasant agriculture has been steadily declining over the past two decades and is currently in the depths of a growing crisis. Regional urbanization is growing, together with processes of deindustrialization and informalization of the economy. The service sector (particularly tourism along the Cancun Riviera) is growing as is, to the detriment of other sectors of the economy, the extraction of crude oil in the Campeche area.

The regional agricultural and agrarian crisis has been accompanied by drastic job cuts and decreased incomes for thousands of rural families. Traditional livelihoods and working methods are under threat. Emigration continues to increase, no longer just to Quintana Roo in the Mexican Caribbean but also to the United States. The problems created are social as well as economic. For some, whatever is associated with rural, agricultural, peasant, and indigenous origin is of low social standing.

Under-development, more than the consequence of insufficient resources, is generally the result of insufficient knowledge among rural communities. These communities lack knowledge of how to use their resources more efficiently and how to best apply technologies that are culturally, economically, socially, and environmentally compatible. By combining traditional know-how and skills with external technical assistance, it is possible to generate opportunities for rural communities to improve their livelihoods, living standards, and needs.

this work, a training center was built to conduct courses in the area of leadership training as well as the implementation of a demonstration camp.

Further, the project promoted food production for self-supply and production diversification and set-up a fund earmarked for the purchase of seeds and farm animals.

Project decisions are now made by a council based out of the school. The council is responsible for: promotion and development of the school; updating, evaluating, and taking action on academic proposals on courses and activities; approval of study plans; evaluation and follow-up on academic activities; approval of reports and work programmes submitted by the principal; approval and enforcement of school rules and regulations; approval of budgets and follow-up on spending; and appointment of the school principal.

Academic components of council activities are supported by an academic commission composed of representatives from each institution participating in the project. The commission evaluates teacher performance and the appropriateness of teaching materials.

To ensure continuity in the learning process, the school relies on a team of peasant promoters and professionals in various areas of agricultural and livestock production. These promoters are charged with providing technical advice and motivation to students.

Further, the project has implemented 5 "central ecological farms" in Yobaín, Maxcanú, Sahcabá, Tzucacab, and Colonia Yucatán and is in the process of creating ten more. The promotion of agriculture and food production in these farms has led to an initiative known as "solidary agriculture". The model involves advanced payment for produce grown in the ecological farms (each basket contains seven kilograms of vegetables). Each farm provides ten baskets producing a diverse mix of products, widening consumer options.

Environmental Benefits

Soil quality has improved and production has been diversified through the incorporation of new crops. The crop base has grown to apply long-forgotten agricultural models from the "milpa" tradition (a crop rotation system) to include various medicinal plants and a strengthening of apiculture.

Waste management practices have been improved, including reductions in the common practice of burning garbage. This has been accomplished by using waste as raw materials for crafts or agriculture. Finding alternative uses for waste reduces runoff into the groundwater table and the contamination of coastline lakes.

It is to be expected that the first five years of school operation will produce lasting changes in farming methods that will further influence the way that peasant farmers organize themselves and distribute their products.

Local Livelihood Benefits

'Central ecological farms' represent a model of diversified technological production owned by peasant family groups. Students at the school and their families benefit directly from improved quality of life and living standards resulting from project activities and increased revenues. Some participants have joined pre-existing development projects in their region of origin. Others have started their own family-based or small group production projects. Of these projects, 20 have been financed through loans derived from a fund set-up by the school.

National Benefits

A significant achievement of the project has been the ability to obtain government support for the school and for the organization of activities to raise its own funds. Fueling this effort has been the desire to create social awareness and cohesion in the service of promoting community ownership of the project. It is widely recognized that a sense of belonging and inclusion are prerequisites for successful community support.

Research centers and universities have been integrated into the project to ensure high quality production and the effective dissemination of knowledge. The objective is a merging of traditional knowledge with scientific knowledge such that school graduates are equipped with a sense of cultural identity as well as the technical expertise necessary to carry out projects in their respective communities.

The project stands as a valuable example of the benefits of intercultural and bilingual Spanish and Mayan education. Through training, local development promoters are able to consistently influence municipal politics in the area of rural agricultural and livestock development.

Beneficiaries

To date, 97 students from 63 towns have graduated from the school. Indirect benefits have reached roughly 700 people. Each graduate lives with their family which is, on average, composed of five people. Many graduates have gone on to establish family and community-based projects in a number of areas of production.

Partners

The project involved the parish of the Archdiocese of Yucatán, governmental organizations, NGOs, universities, and the private sector. The project's success also stems from the involvement of school alumni who return to contribute by sharing their experiences, assisting university professors with teaching modules.

LESSONS LEARNED

Environmental Management

As a preliminary step, it is necessary (as was the case with the central ecological farms) to address issues of market access and, above all, finding inroads into fair trade markets. The school was able to set guidelines for local and relevant ways of achieving economic development through ecological production. These ecological production systems have gradually become valuable for rural areas and for other sectors of the population across the peninsula.

Barrier Removal

The project attracted and trained dozens of youth and young adults from a number of rural communities and even some from the city. Students were drawn in by relevant and applicable skill-sets of technical, production, and social tools that will help them become agents of change in their communities.

The project has widened knowledge about and consideration for the realities of rural life and has fostered a sense of fraternity and community among teachers, students, and different 'generations' of alumni who return to pass on their knowledge and experiences.

Scaling Up

The school is expanding regionally through rural communities along three main paths: training courses for youth, follow-up and support of alumni projects, and the central ecological farms.

The key factor in replicating this experience continues to be the active and ongoing community involvement of alumni. This has been occurring and should occur in the future on a personal (peer-to-peer) basis and through wider dissemination methods (mass media and internet networks).

SOURCES CONSULTED

Raul Murguia, SGP National Coordinator, Merida
<http://sgp.undp.org/index.cfm?Module=Projects&Page=ShowProject&ProjectID=4045>

Organic Honey Production, Mexico

Themes

- Mainstreaming biodiversity in production landscapes and sectors
- Technical capacity development
- Institutional capacity development
- Poverty alleviation (MDG 1)



Improved beehives, Quintana Roo (Mexico)

PROJECT DATA

Name: Organic Honey Production

Implementing Organization: Kabi Lol (Miel de Flor), S.P.R. de R.I.

Location: Municipality of Othon P. Blanco, State of Quintana Roo, Mexico

Ecosystem Type: Forest Ecosystems

SGP Contribution: US\$16,578.95

Start Date: 2004

BACKGROUND

Beekeeping has a long and rich heritage in Mayan culture. Over 25% of the peasants of Othon P. Blanco devote their time and resources to honey production. Honey sales constitute the main source of income with which they finance a system of crop-rotation known as "milpa".

Large varieties of trees, shrubs, and liana species contribute to a long flowering period - eight months of uninterrupted honey production. If well managed, the region has the potential to produce up to 120 kilograms of honey per beehive. Due to a lack of training and the deterioration of the equipment, however, average production reaches on average only 25 kilograms per beehive.

The situation has been slowly reversed by apiarists who have organized themselves into a production association. Since the creation of the association, average extraction rates have risen to 67 kilograms per beehive.

Despite the widespread practice of beekeeping, the trade is beset with technical problems (lack of training), environmental problems (adaptability to changes in weather), market problems (lack of marketing channels), and quality problems (honey with a high humidity index). These challenges/barriers place local beekeepers at a disadvantage in export markets, where competition fuels pressure on yield volumes and on quality.

PROJECT DESCRIPTION

Overview

The project seeks to consolidate beekeeping as a sustainable alternative for the conservation of natural

resources for 41 members in three communities. Toward this end, the project trains the population in the production of pollen, propolis, royal jelly, and beeswax, and in the application of organic management techniques. The primary objective is to increase (by at least 40%) the number of beehives handled by all association members and to ensure a conservation area of at least 700 hectares permanently covered with honey-yielding plants.

Implementation

The planning stage evolved through participatory planning. Consensus was reached to shift from traditional to organic honey production. This decision required collective agreement, a process that saw reduced association membership from 77 to 40. While potentially jeopardizing the stability and continuation of the organization, the decision yielded positive results. The members who stayed undertook a serious commitment to a process that would benefit them, their families, and the community in general.

The training stage progressed via specialized and participatory techniques. Training included not only organic honey production methods but also environmental conservation. Courses also included quality control, disease management, product diversification, and administrative skills.

In the next stage, members used loans and subsidies to purchase more efficient and appropriate equipment for the production of organic honey.

Honey production began in conjunction with a parallel certification track through CERTIMEX, the Mexican agency authorized to certify organic honey. Certification is renewed annually based on inspections performed by the certifying agency.

In 2001, the organization gained access to European markets by joining the United Apiary Producers of Latin America (PAUAL), an organization bridging producers with

European fair trade markets. This stage required a good deal of time and planning in understanding and preparing all necessary documentation for certification and understanding the logic of what it actually meant to enter into fair markets and international trade.

In the diversification and growth stage, the project focused on training association members in techniques to obtain, handle, and market honey byproducts (propolis, royal jelly, pollen, and stamped beeswax). Efforts have been made to disseminate the project's successes and to attract new members and organizations to the process.

Environmental Benefits

The project has meant conservation of the natural resources required to produce honey. Environmental benefits are returned through ecosystem services (clean air and water) and crop diversification as an alternative to felling trees. The use of chemical contaminants and agrochemicals has been abolished, protecting groundwater, soil, and the community's physical environment from contamination. Each member has "ejido" rights over 70 hectares of land, of which 40 contain canopy-level trees and 20 low-lying floodlands.

Local Livelihood Benefits

The project created a revolving fund to promote savings and serve as a cushion in the face of emergencies. Financial resources accrued are earmarked for investment, health and community recreation. Product certification in both Mexico and Europe allow members to fetch substantially higher prices in the respective markets.

Since the project's inception, family incomes increased not only for association members but for all apiarists in the region. In the space of a few years, increases in income have translated to enhanced educational opportunity for children beyond that afforded to their parents.

National Benefits

The introduction of organic honey has been accompanied by internal rules and regulations protecting forests and endemic flora and fauna. Apiarists and other *ejido* members working in related productive activities are required to protect flora and respect all areas demarcated as conservation areas. Similarly, an internal community rule now stands banning the hunting of endangered animal species.

The organization has emerged to be an important player in the definition of honey prices in domestic and, to a lesser extent, some international markets. This influence, however, prevents middlemen from exploiting gaps between production and markets.

Beneficiaries

The direct beneficiaries of the project are the 41 apiarists and 210 people of the Kabi Habín SPR association and their families. Benefits are visible in increased incomes, product diversification, and higher prices returned from the marketing of organic products.

Indirect beneficiaries include apiarists of the wider microregion who appropriate management techniques and market their honey at better prices, piggy-backing on the prices established by the SPR and advantaging from the phasing out of middlemen.

Capacity Building

The organization has thrived from a high level of group cohesion. This has produced a feeling of belonging and solidarity that has allowed them to cope with and overcome the issues and obstacles that evolved throughout the process.

The organization's strength and the authority and respect garnered by their work allow members of the organization to reach positions of power locally from which they can negotiate with government institutions to improve local conditions.

Partners

The organization is one of the founding partners of PAUAL, through which it participates in training and learning exchange with producers from across Latin America. The organization is also a member of the Fair Trade Labeling Organizations International (FLO), which promotes fair trade-oriented initiatives.

LESSONS LEARNED

Environmental Management

One of the most important achievements of this project is its permanent participatory activity, where both the core organization and its advisors have taken on an equal measure of responsibility. The organization is not only geared towards improving the beekeeping business, but also the sustainable development of the region's resources.

The organization's commitment to raising awareness about the importance of environmental conservation and sustainable organic honey production provides the group with a sense of responsibility that is complemented by transparent and honest operations. Where traditionally business has been left to the logic of markets and middlemen, resulting in environmental degradation and social inequity, the organization stands as a model for participatory management and sound business practice.

Barrier Removal

Through the specialized technical assistance received, the organization now has the necessary expertise to make appropriate decisions according to the fluctuating needs and realities of the microregion.

SOURCES CONSULTED

<http://sgp.undp.org/index.cfm?Module=Projects&Page=ShowProject&ProjectID=7498>

Ese'ija Community Ecotourism, Peru

Themes

- Catalyzing the sustainability of protected areas
- Mainstreaming biodiversity in production landscapes and sectors
- Financing mechanisms and private sector involvement
- Institutional capacity development
- Awareness, culture, and practices
- Poverty alleviation (MDG 1)

PROJECT DATA

Project Name: Ese'ija Community Ecotourism
Implementing Organization: Rainforest Expeditions, Posadas Amazonas
Project Location: Tambopata-Candamo Reserved Zone (TCRZ), Peru
Equator Prize Contribution: 2002 finalist
Ecosystem Type: Rainforest, watersheds, mega-biodiversity hotspot
Natural Resources Conserved: Giant river otters, harpy eagles, macaws, hummingbirds, kingfishers, herons, toucans, turtles, and monkeys
Start Date: 1998

BACKGROUND

Located on the fringe of the Tambopata-Candamo Reserved Zone (TCRZ) in south-eastern Amazonian Peru, the Ese'ija Community contributes 10,000 hectares of communally owned and managed tropical rainforest to those of the Reserved Zone. The philosophy of the reserve is one of sustainable development and conservation of forest resources. The community is part of a 1.5 million hectare reserve in south-eastern Amazonian Peru created in 1990 by a national governmental partnership with international conservation organizations, including Rainforest Expeditions.

The TCRZ protects the biological diversity of the Tavera watersheds, the Candamo Rivers, and most of the watershed of the Tambopata River, all of which shelter an extraordinary diversity of flora and fauna and form one of the richest natural areas on the planet. The reserve protects habitats ranging from the river headwaters of the Andean highlands, through some of the last remaining intact cloud forests, to the lowland rainforests of the Amazon basin. One of the highlights of the reserve is the Colpa de Guacamayos, one of the largest natural clay



Ese'ija community members work in the construction of a Posadas Amazonas lodge in a joint ecotourism venture with Rainforest Expeditions (Peru).

deposits in Peru. These copper-coloured cliffs attract thousands of macaws and parrots who come to feed on the mineral salts contained within the rocks.

The Ese'ija inhabit a titled native community of almost 10,000 hectares. Founded in 1976, it is the first "native community" to be officially recognized within the state of Madre de Dios. Prior to this initiative, the Ese'ija native community of Infierno, which

consists of about 400 people (20% Ese'ijas, 21% Andean immigrants, 23% local immigrants, and 34% mestizos), was extremely poor, surviving on subsistence agriculture, the collection and sale of Brazil nuts, and small-scale hunter-gathering that was increasingly depleting their natural resources. For years there has been tension and resentment between indigenous populations and immigrants, fuelled in part by extreme poverty and competition for diminishing resources. The community became interested in the development of ecotourism activities within their territory as an alternative source of income.

PROJECT DESCRIPTION

Overview

The Ese'ija community in Amazonian Peru is engaged in a joint tourism venture with the private ecotourism company Rainforest Expeditions. Through joint projects, the community has enjoyed improved quality of life from ecotourism revenues earned through the operation of a 30-bedroom lodge, Posada Amazonas.

Implementation

The initiative is the result of a partnership between the Ese'ija Community and Rainforest Expeditions, a successful ecotourism company founded in 1989 to empower and to meet the needs of local communities, to conserve natural

resources, and to operate with sound business practices. Rainforest Expeditions brings commercial expertise and a well-established position in the wildlife and cultural tourism market to the initiative.

The operational framework of this initiative is a 20-year contract signed in 1996 that defines the proportion of profits taken by each participant - 60% to the community and 40% to Rainforest Expeditions - and the decision making powers - which are shared 50% each. The initiative is led by a ten-member Ecotourism Committee on which each party has equal representation. Other fundamentals of the relationship include the training of community members to occupy all lodge positions, the purchase of products from the community if of equal quality and price to those available elsewhere in the market, and the gradual integration of cultural resources into tour programmes. Full management of the lodge itself will pass to the local community in 2016. The lodge employs community members in all but two of the eighteen operational sectors. The community has formed committees to work on strategic plans for sectors such as agriculture, education, handicrafts, and rescuing cultural resources. Two liaison personnel have been appointed by the community to improve communications between the various sub-committees and projects in order to avoid misunderstandings.

Environmental Benefits

Global. A proportion of Posada Amazonas revenues are reinvested in conservation and development projects. Conservation initiatives include the demarcation of fragile lake areas as "off limits" to tourists and to commercial fishing, a 100 meter protection area around harpy eagle nests, and monitoring of macaw nests. In a region of mega-biodiversity containing fragile ecosystems housing endangered species, local environmental benefits are tantamount to global environmental benefits.

Local. Posada Amazonas was built on a reserve set aside by the community 25 years ago to protect forest wildlife and to replenish other areas that were becoming ecologically impoverished. The Ese'ija community benefits from income generated through the ecological stewardship of an area rich in biodiversity. More effective conservation is fueled by keeping an eye on business benefits. Posada Amazonas protects biodiversity through low-impact, educational tourist activities: a four-day programme of visits to natural habitats (macaw habitats and a lake inhabited by giant otters) that employ non-motorized rafts; a canopy tower to view the rainforest's immense biodiversity; and cultural interaction with local people including a farm visit and ethno-botanical tour. The Posada Amazonas lodge is constructed entirely from local materials (cane and palm leaves) through a combination of traditional indigenous design and (wherever appropriate) modern sustainable techniques.

Local Livelihood Benefits

Poverty reduction: The Ese'ija community was assisted in the building of Posada Amazonas by the design and construction expertise of Rainforest Expeditions. Jobs pay between 75% to 150% above the minimum wage and 10% to 30% above competing lodges.

Employment: The project is intimately related to job creation and training. The staff of Posada Amazonas is made up of a majority of Ese'ija community members, providing valuable employment and income from tourism to their families.

Income generation. In 2000, net profits paid from the lodge to the community were US\$15,000 - three quarters of which was divided among community members; the remainder was used for school construction and investment in education. Wages from employment related to the initiative have increased mean family income by 38% since 1998 and, in 2001, profits rose to US\$35,000. In addition to the lodge operation, the community receives profits from the lodge bar - US\$18,000 in 2000 - which are used to pay for day-to-day needs and emergency loans. The ethno-botanical tours have received payments of more than US\$3,500 since the ethno-botanical centre was opened in July 2001. Additional income has been derived from part-time jobs and the sale of handicrafts. As most families have not abandoned their previous sources of income, those households in which at least one person is working at Posada Amazonas have seen a considerable increase in their income, which has continued to rise with wage rates now 25% higher than in 1998.

Social inclusion. Inclusion is emphasized at all levels of operation. Crucially, there has been a meaningful increase in the understanding and tolerance between rival groups within the community. There is ongoing interchange between community members, the directors of Rainforest Expeditions, and the Peruvian naturalist guides.

Regional and National Benefits

Demonstration effects. The Ese'ija community's decision to set aside their lands for conservation, taken many years before the start of this initiative, permits the joint venture. Partnership between private enterprise and the local community - along with the sharing of benefits and decision-making between the two - is the project's key attribute of success. The agreement of benefit-sharing is productive for both parties. It is apparent that the community is capable of moving rapidly to take a greater share of the managerial responsibility. This is a pioneering effort in indigenous leadership in biodiversity conservation in Peru. The end result is a management approach effective in the protection of a significant area rich in biodiversity.

Capacity building. Management training is offered to ensure community members have access to the full range of employment available through the enterprise. English is taught on-site and tourism-related skills are incorporated into the community's school curriculum. Within the community there are a group of leaders with growing experience in tourism and in problem-solving who are now identified with the initiative. With a grant from the MacArthur Foundation, guide-training programmes have been initiated. Community guides begin their training in a community guide course to strengthen their knowledge of biology, conservation, biodiversity, ecosystems, and basic flora and fauna classification. The Rainforest Expeditions annual guide course covers most major taxonomic groups, such as mammals, birds, insects, ecology, and plants, as well as Red Cross first aid training.

Policy development. The Ese'eja community has title to their land and was the first "native community" to be officially recognized within the state of Madre de Dios. The government's role in setting aside the major land reserves and in establishing conditions for ecotourism operations was crucial.

Beneficiaries

The Ese'eja community owns the lodge and assumes co-management it with Rainforest Expeditions. The community has requested a reformulation of the contract with Rainforest Expeditions in order to assume greater control of decision-making, in preparation to assume full control in 2016. Community members are the primary beneficiaries, while the operators of Rainforest Expeditions benefit from the tourist draw of access to indigenous communities and an area rich in biodiversity.

Partners

The primary partner of the Ese'eja Community is Rainforest Expeditions, a Peruvian for-profit company operating four ecolodges in Peru. In addition to Posada Amazonas, it runs and operates two ecolodges in the southeastern Amazonian Tambopata Candamo Reserved Zone (Refugio Amazonas and Tambopata Research Center) and another in the Andes near Huascarán National Park.

Conservation International and the Wildlife Conservation Society have been crucial to the success of this joint venture. The MacArthur Foundation, World Bank Policy Science Institute, and American Bird Conservancy have made contributions to make the lodge possible.

LESSONS LEARNED

Environmental Management

With the growth in ecotourism and wildlife adventures, there is potential for the growth of "green-washing" tourist activities detrimental to wildlife, their habitats, and indigenous communities. Rainforest Expeditions, however, runs a reputable ecotourism business that adheres to principles of sustainable, low-impact tourism. The partnership between RFE and Ese'eja is emblematic of the potential for mutually beneficial outcomes in biodiversity conservation, income generation, and poverty reduction. A proportion of the daily rate paid by guests is reinvested in local conservation and development projects.

Barrier Removal

Financial. The initiative is financially sustainable and currently provides a high-quality, authentic rainforest experience for 4,400 guests a year. The lodge has an occupancy rate of 57% (20% above the break-even point) and provides a 35% rate of return on investment. There is room for further growth in tourism-related trades: handicrafts, food production, and retail.

Institutional. The concept and legal framework for a joint venture between business and indigenous communities does not exist elsewhere in Peru. Training programmes designed and taught in-house for the tourist service industry is a pioneering approach in the national business arena. Sustainability is enhanced through association with Rainforest Expeditions, which has an excellent market reputation with an international clientele of over 250 travel agents and offices in three cities.

Scaling Up

The joint venture model has considerable potential for replication. Rainforest Expeditions established an ecotourism information exchange called "Learning Host-to-Host". Operators of three pioneering ecotourism projects in the Amazonian regions of Bolivia, Ecuador, and Peru have met to pool information and draw up a list of best practices. Notable activities include South-to-South exchanges, facilitating visits to other projects by local community members, sharing knowledge and insights both nationally and internationally, and establishing standards for community-based tourism.

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