



Biodiversity Conservation Network

Evaluating LINKAGES Between
BUSINESS, the ENVIRONMENT,
and Local COMMUNITIES

Final Stories From the Field



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BIODIVERSITY CONSERVATION NETWORK


WASHINGTON, D.C.

About This Book

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About BSP

BCN is part of the Biodiversity Support Program (BSP), a consortium of World Wildlife Fund, The Nature Conservancy, and World Resources Institute, funded by the United States Agency for International Development (USAID). BSP's mission is to promote conservation of the world's biological diversity and to maximize the impact of U.S. government resources directed toward international biodiversity conservation. We believe that a healthy and secure living resource base is essential to meet the needs and aspirations of present and future generations.

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TABLE OF CONTENTS

Message From the Director	v
I Overview of the Biodiversity Conservation Network	1
II Stories From the Field	7
1. Pulling Themselves Up By Their Roots	8
Oils from alpine plants may provide a more prosperous future for communities in Nepal — if they can make their product essential in a competitive national market. <i>Humla District, Nepal</i>	
2. Rhinos and Tigers and Crocs — Oh My!	18
Now that people living near Chitwan National Park are directly benefiting from ecotourism, they can afford to be more tolerant of big game living in their backyard. <i>Royal Chitwan National Park, Nepal</i>	
3. Creating a Land of Silk and Honey	30
Remote Himalayan villagers encounter technical difficulties with their enterprises, but discover that ancient institutions can point the way. <i>Garhwal, India</i>	
4. Trekking Towards Conservation	38
Trail-blazing efforts in ecotourism are building local capacity and economic incentives for conservation in Sikkim. <i>West Sikkim, India</i>	
5. Prescriptions for Conservation	48
Tribal people are setting up herbal medicine and forest product harvesting enterprises to heal a bureaucratic forest management system — while the short-term prognosis is good, it is not clear whether the cure will work. <i>Biligiri Rangan Temple Sanctuary, Karnataka, India</i>	
6. Gibbons in the Mist	56
A consortium seeks to set up a community-based ecotourism program and finds itself struggling through the fog of inter-institutional relations. <i>Gunung Halimun National Park, West Java, Indonesia</i>	
7. Timberrrr....	68
After a four-year process of working with the government to develop precedent-setting policies, this community enterprise may actually begin production, in part thanks to the fall of the old government. <i>Gunung Palung National Park, West Kalimantan, Indonesia</i>	
8. Too Much Business	78
A rattan handbag production company discovers that being in demand can be a mixed blessing. <i>West Kalimantan, Indonesia</i>	
9. The Butterflies and the Bees	88
Butterfly sales and a honey-hunting business are demonstrating both the effectiveness and the limitations of community-based enterprises in Central Sulawesi. <i>Lore Lindu National Park, Sulawesi, Indonesia</i>	



TABLE OF CONTENTS, CONTINUED

10. Killing Butterflies in the Name of Conservation	98
Ranching birdwing butterflies on the perimeter of a nature reserve has become a foundation for the local people's financial self-reliance — and it is helping conserve these endangered species. <i>Arfak Mountain Nature Reserve, Irian Jaya, Indonesia</i>	
11. Knowledge is Power	108
Three coastal communities are finding that, although their tourism business is growing slowly, their monitoring is leading towards more sustainable fisheries management. <i>Padaido Islands, Irian Jaya, Indonesia</i>	
12. Big Results From Small Enterprises	118
In the forests of Mindanao, community organizing and capacity-building can pay big dividends even when enterprises do not generate much income. <i>Bendum, Pantaron Forest, Bukidnon, Mindanao, Philippines</i>	
13. Necessary but Not Sufficient	128
Successful ancestral domain claims provide a legal foundation for conservation, but it is not clear whether the enterprises and local organizations will survive in the long run. <i>Palawan Island, Philippines</i>	
14. Our Road to Independence	136
Sales of jellies, orchids, and mushrooms help the Ikalahan tribe stop a highway and plan their own path towards a sustainable and self-determined future. <i>Kalahan Reserve, Nueva Vizcaya, Philippines</i>	
15. Managing the Common Ground	144
An NGO struggles to find a balance between promoting conservation and developing clan-owned lands in the Highlands of PNG. <i>Crater Mountain Wildlife Management Area, Papua New Guinea</i>	
16. Learning Conservation Lessons the Hard Way	162
A scientific and adventure tourism project runs into many difficulties, and generates important lessons from the experience. <i>Lakekamu-Kunimaipa Basin, Papua New Guinea</i>	
17. Buying Chainsaws to Save the Rainforest	174
A local NGO is helping communities develop their forest resources, which has kept them from selling to the large logging companies. Clan politics, however, threaten this success. <i>East New Britain, Papua New Guinea</i>	
18. Fishing for Answers	182
Design flaws make it hard to understand why, when a deep-sea fishery floundered, conservation still occurred. <i>Arnavon Islands, Solomon Islands</i>	
19. Award-Winning Tourism and Unstandard Oil	194
Villagers in the Solomon Islands struggle with bringing community-based businesses up to international quality-control expectations. <i>East Bauro, Makira-Ulawa Province, Solomon Islands</i>	
20. Drugs From the Deep	206
Against all odds, policies and high-tech know-how come together in the management of one community's marine resources. <i>Tikina Verata, Fiji</i>	
III Next Steps Along the Path	219

MESSAGE FROM THE DIRECTOR

The BCN program is ending and these are the final "Stories from the Field." Although these words are tinged with sadness, there is also a sense of a mission accomplished. Like a beekeeper tending a hive, we are now in a position to harvest the lessons gathered and stored up over the years.

BCN will be producing filtered and refined final analytical products that will present the lessons that we have learned in their sweetest and purest form. We also realize, however, that among discriminating palates, there is an important market for raw and unfiltered information. This book continues BCN's tradition of enabling our partners to tell their stories in their own words. In these stories, you will see BCN in action — both the sweet honey and the bitter impurities.


BCN was established to promote biodiversity conservation at specific project sites, evaluate an enterprise-oriented approach to conservation, and develop process lessons. The biodiversity at each site faced threats including over harvesting of key species, conversion of natural habitats, and development of human settlements. Each project attempted to meet these threats by developing one or more enterprises that depended on the biodiversity of the site and that, by and large, incorporated local concerns and paid particular attention to the social and ecological impacts of the enterprise.

Through an emphasis on natural resource monitoring and evaluation, communities are being armed with the appropriate tools and techniques to collect the data needed for informed decision-making to address these threats. And by processing raw materials on site, many of the BCN-funded enterprises are enabling communities to leapfrog from being mere collectors of forest and reef products to being processors, thereby moving up the value-added chain, capturing a greater percentage of the final sale price, and, it appears, creating a greater incentive for sustainable management of "more valuable" natural resources. Commensurate with the higher return is exposure to higher risk, which these enterprises are beginning to understand and adapt to.

Although we have had our share of failures, many of the project leaders and community members exude a sense of confidence and pride in what they have accomplished. While thinking locally and acting locally, many of them, nevertheless, are having policy impacts regionally and nationally. Many of the projects, at the cutting edge in their design and implementation, will use follow-on funding to continue their emphasis on capacity-building and to ensure financial, institutional, and environmental viability.

Despite our focus on biodiversity conservation, BCN is largely about people. And the sweetest product of the BCN work is the learning that each of us has gained. I have been privileged to obtain different perspectives of the BCN program, first by working in the field implementing one of the first BCN projects,





then as the BCN Regional Representative in Manila, and finally as BCN's Director. The results of the BCN experiment have only reinforced my personal belief that despite shortcomings, community-based approaches have an immense potential to counter threats to biodiversity, address degradation and diminution of ecosystem functions and services, and institute and strengthen sustainable management of forests and coastal resources. Collective actions, which have been stymied by past legacies, have received a powerful boost through the program. The full potential of the projects is perhaps yet to be realized, but we can see glimpses of their immense promise in the succeeding pages.

Although the BCN Program is coming to an end, the projects it has supported over the past few years will continue. Most of the projects have already secured ongoing financing from a variety of sources and will continue to implement and adapt their work, hopefully reaching the goals they have set for themselves. Furthermore, some of the projects have already begun to replicate their ideas at other sites. BCN, as a program, will also hopefully see its lessons live on in other programs. In particular, I feel that BCN's emphasis on monitoring and adaptive management will be BCN's greatest legacy.

In closing, I would like to thank USAID and US-AEP for funding the program and the Biodiversity Support Program and its consortium partners for hosting the program. I would like to thank the BCN staff and consultants for all their hard work over the years. And most of all, I would like to thank our project partners for having made it all possible.

- **Ganesan Balachander**
Manila, March 1999

I. OVERVIEW OF THE BIODIVERSITY CONSERVATION NETWORK

BCN's Goals

The Biodiversity Conservation Network (BCN) was established to fulfill two main programmatic goals. Specifically, we set out to achieve:

- **Conservation Impact** — Support enterprise-based approaches to biodiversity conservation at a number of sites across the Asia/Pacific region, and
- **Enhanced Knowledge** — Evaluate the effectiveness of these enterprise-based approaches and provide lessons and results to BCN's audiences. In addition, although it has not been an explicit goal, we also set out to develop:
- **Process Lessons** — Learn how to implement enterprise-based approaches in an effective manner.

BCN's Core Hypothesis

BCN's Core Hypothesis is: "If enterprise-oriented approaches to community-based conservation are going to be effective, then the enterprises must (1) have a direct link to biodiversity, (2) generate benefits, and (3) involve a community of stakeholders."

More specifically, these three elements of the core hypothesis are:

- 1) **Linkage Between the Enterprises and Biodiversity** — The enterprises must directly depend on the in-situ biological resources of the area. The BCN thus sought to develop enterprises that would fail if the biological resource base upon which they depend was significantly degraded.
- 2) **Generation of Short- and Long-Term Benefits** — The enterprises must generate benefits (economic, social, and/or environmental) for a community of stakeholders both in the short run and, with a high probability, in the long run, after BCN funding ends.
- 3) **Community/Stakeholder Involvement** — The enterprises must involve members of the local community, and often others, who are stakeholders in the enterprises and biodiversity of the area.




























In effect, the hypothesis is that if local communities receive sufficient benefits from an enterprise that depends on biodiversity, then they will act to counter internal and external threats to that biodiversity.

To achieve its goals and test its hypothesis, BCN brought together organizations in Asia, the Pacific, and the United States in active partnerships with local and indigenous communities. The program provided grants for 20 projects in 7 countries in Asia and the Pacific; the grants encouraged the development of enterprises that are dependent on sustained conservation of local biodiversity (see map on the next page). Projects supported by BCN were also charged with monitoring the social, economic, and biological impacts of their interventions.



Keys to the Conservation Impact Symbols

The map on the preceding pages and the Stories From the Field in Section II use a series of symbols to show the conservation impact, funding level, type of land ownership, and type of enterprise for each of the BCN projects. The keys to these symbols are presented here.

<p style="text-align: center;"><u>CONSERVATION IMPACT</u></p> <ul style="list-style-type: none">  Habitat Protected  Habitat Improved  Threatened or Endangered Species Protection/Endemic Conservation  Policy Enactment  Adaptive Management  Community Management  Local Management Plan Implemented  Replication of Project Approach/Monitoring  Benefits Generated  Threat Reduction  Policing and Enforcing  Resource Use Change  Publications Outreach/Education 	<p style="text-align: center;"><u>FUNDING</u></p> <p style="text-align: center;">Relative BCN Funding (USD)</p> <ul style="list-style-type: none">  \$150,000-\$300,000  \$350,000-\$450,000  \$500,000-\$650,000
	<p style="text-align: center;"><u>LAND OWNERSHIP</u></p> <ul style="list-style-type: none">  Communal Property  Government Controlled
	<p style="text-align: center;"><u>ENTERPRISE TYPE</u></p> <ul style="list-style-type: none">  Non-Timber Forest Products (NTFP)  Ecotourism  Silk  Honey  Timber  Butterflies  Fishing  Marine  Medicinal

BCN's Analytical Efforts

BCN's analytical efforts correspond to our three goals and involve documenting our conservation impact, testing our hypothesis, and developing process lessons. We are undertaking two complementary types of analytical efforts to achieve these goals.

The first of these efforts involves formally analyzing the vast amounts of quantitative and qualitative data collected by the BCN projects. The results of these analyses will be presented in technical papers, practitioner-oriented reports and presentations, and on the BCNet Web site (www.BCNet.org). We've invested a great deal of time and effort in these analyses and we certainly hope that you will find them useful.

These formal analyses are, however, only half the picture. The other half involves drawing upon the vast experiences of our project partners. All of the groups that we have worked with have developed their own set of lessons as to what has worked — and equally importantly, what has not worked — and why. This book presents these lessons in the form of our stories from the field.

What Are "General and Yet Non-Trivial" Guiding Principles?

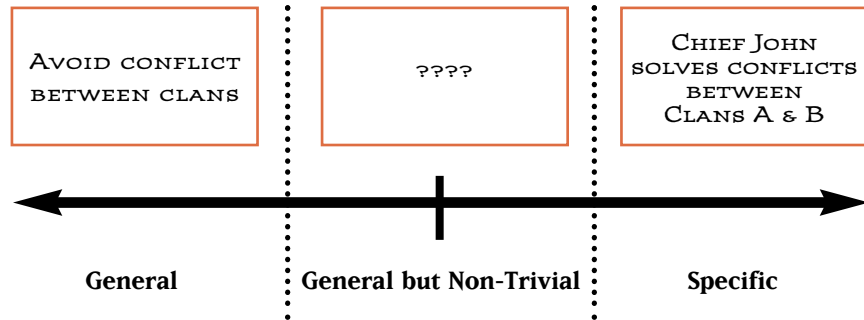
In navigating the conservation and development landscape, there is no single path — or magic formula — that will lead a group to success. There are no guarantees that an intervention that works at one site in Indonesia will work equally well at another site in Brazil — or even at the same site in Indonesia the next year. On the other hand, it also seems likely that there are not an infinite number of paths leading to success. To be sure, the exact path that any group needs to follow depends on their starting point, their goals, the changing conditions at the site, and conditions in the broader social, political, and economic context in which they are operating. But to say that there are no common aspects — that everything is site specific — implies that there is no need for any kind of systematic science.

Between these two endpoints of a spectrum of the possible number of paths is a vast middle ground in which there is some finite number of paths through the landscape. It is impossible to advise a project team exactly when and where it will encounter a given obstacle or catalyst or what it should do upon encountering them. But is it possible to provide advice about commonly occurring catalysts and obstacles? Can we develop general knowledge about the obstacles that groups are likely to run into — how to avoid them if possible and how to deal with them if they must? And can we discover catalysts with which we can equip groups to move forward towards their goal in a more efficient manner?

If this middle ground exists, it is most likely to take the form of general and yet non-trivial guiding principles. As shown in the right side of the diagram on the next page, at any given site there are specific principles that are of great use to people working at that site. For example, project team members working at a site in Papua New Guinea might develop a principle such as "Use Chief John to help settle any



conflicts that arise between different clans." Unfortunately, these site-specific principles don't really help a person working at the next site over, let alone halfway around the world. On the far left side of the diagram are general principles that apply to most or all sites. Unfortunately, most of these principles, as illustrated by the example "Avoid conflict between clans," tend also to be trivial — they are true, but not very helpful to practitioners. The question thus becomes: Are there general and yet non-trivial guiding principles, as shown in the center of the diagram?



It is most likely that, if these general and yet non-trivial guiding principles exist, they will take the form of conditional probability statements. For example, we might say "In Melanesian type social systems, it is generally better to work with the big man to solve conflicts unless he is corrupt." The key features here are that the principle applies to more than one place (in Melanesia) but not everywhere. Furthermore, it is not guaranteed to work in all instances — the user has to be smart enough to apply it to his or her own situation — for example, to determine if the big man is corrupt or not. Our job thus becomes determining not just what the principles are, but also under what conditions and with what probability of success each principle is likely to work.

II. STORIES FROM THE FIELD

This section presents stories from each of the 20 BCN-funded projects. We asked each project team to discuss what they accomplished over their final year, what some of their successes were, what challenges they faced, and what they learned. Their answers to these questions form the main text of the following pages. We then asked the BCN program officers who worked most closely with each project to comment on the stories. These comments are presented in the sidebars next to the corresponding text.

We hope that the contrast of these two perspectives will illuminate some of the key lessons that have emerged from BCN's experience. In particular, following BCN's three main goals, we hope that you will discover at least three types of lessons:

1. Conservation Impact — All of the stories indicate that "conservation happened."

This impact can be seen in the threats met and the biodiversity that has been protected. But the impact of the projects can also be found in the institutional growth that has occurred and the learning that individuals have gained.

2. Principles for Using an Enterprise-Based Approach to Conservation —

As discussed in the accompanying box, BCN has been developing "general and yet non-trivial guiding principles" for using an enterprise-based approach to conservation. All of the stories illuminate some of these principles related to the three elements of the BCN hypothesis. There are principles about how to set-up and manage a linked enterprise and how to market the products and services. There are principles about how to most effectively share the benefits that an enterprise can bring and how to minimize the costs it imposes. And there are principles about how to organize a community of stakeholders to take effective conservation action. The stories describe the specific conditions under which each of these principles will or will not hold. And most fundamentally of all, the stories illustrate BCN's basic conclusion that "these enterprises can lead to conservation, but only under certain conditions and never on their own."

3. Process Lessons — Finally, all of the stories illustrate some of the key process lessons that we have learned. In particular, the stories indicate the importance of adaptive management — integrating program design, management, and monitoring to provide a framework for testing assumptions, adaptation, and learning.

With these hints of what to look for, let's go to the stories.



Pulling Themselves Up By Their ROOTS

HANK CAULEY

Oils from alpine plants may provide a more prosperous future for communities in Nepal — if they can make their product essential in a competitive international market.



What's Happened Over the Past Year?

From April to June 1998, widespread shortages of rice and wheat, coupled with a severe outbreak of respiratory infections, placed an additional burden on the local people.

The poverty, food production deficit, and underdeveloped public health infrastructure in Nepal's Humla District will remain a major hindrance to overall development for some time to come.

Without the economic incentive that the project's enterprise, Humla Oil Pvt. Ltd., provides, it is unlikely that the local population would have any reason to get involved with biodiversity conservation when they are mainly concerned with the immediate survival of their families. By coupling activities that generate cash with the project's conservation activities, communities receive a direct benefit — the ability to purchase much needed food and clothing.



HUMLA DISTRICT, NEPAL



PARTNERS:

- .. ENTERPRISEWORKS
WORLDWIDE (FORMERLY
APPROPRIATE
TECHNOLOGY
INTERNATIONAL)
- .. ASIA NETWORK FOR
SMALL-SCALE
AGRICULTURAL
BIORESOURCES
(ANSAB)
- .. THE HUMLA
CONSERVATION AND
DEVELOPMENT
ASSOCIATION (HCDA)
- .. HUMLA OIL PVT. LTD.





BERND CONDÉS

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SUCCESSSES

Tenure and Royalties

The Humla Conservation and Development Association (HCDA) assisted the Thali community (one of the local villages) to get their community property back under local jurisdiction through the community forest system. As a result, the community members were able to directly charge a royalty on non-timber forest products coming from their forest and pasture lands. This allowed the community to receive U.S. \$3,000 (a large amount by local standards) that previously went to the central government. When word got around to other communities, HCDA was inundated with requests from villages to help them set up community forests as well. In the past, the royalty payments were collected by the district forest office and went to the central government with no provision to return any money to the community of origin. As a motivational tool for helping communities realize the benefits of community forests, no number of workshops or other typical project activities could compare with the direct economic benefit of having a registered community forest with a management plan that allows for the collection of royalties.

As a motivational tool, no number of workshops or other typical project activities could compare with the direct economic benefit of having a registered community forest with a management plan that allows for the collection of royalties.

When project activities began in Humla no community forests existed, but now, within the project area, a total of 19 Community Forest User Groups (CFUGs) representing 1,480 households have been formed. These CFUGs are now formally managing 10,173-ha of forest and pasture land. The project has also influenced other parts of the district to undertake the CFUG formation process. There are 12 CFUGs outside the project area, making a total of 31 CFUGs with their forest areas handed over for the entire district.

The CFUGs that already have their tenure have collected a total of NRs. 1,000,000 (U.S. \$14,633) thus far. This amount is likely to double during



PROJECT OVERVIEW

What's at Stake?

The mountainous District of Humla lies between the distinct botanical regions of the Eastern and Western Himalayas. Its remoteness and isolation have created a region of high floral diversity, including many alpine plants whose roots contain commercially valued medicinal and essential oils. These plants have in the past been harvested and sold to middleman traders. As the human population increases and cash income becomes more important, this complex ecosystem is being threatened by overharvesting of these plant species as well as by overgrazing of the alpine meadows where they grow. In addition, the forest ecosystems in the region are being threatened by fuelwood collection.

What's Being Done About It?

To address these problems, the project partners are working with local villagers to help them gain control over the resources that they collect from government-owned lands. The project works with local communities to help them develop Community Forest User Groups (CFUGs) that can take over the management of local forest and pasture lands.

To help the communities gain additional benefits from the plants that they are collecting, the project team collaborated with the communities of Humla to establish two essential oil distillation factories. These plants are now producing commercial quantities of jatamansi oil as well as other species. Adding value through processing the plants into oil decreases the need to harvest vast amounts of raw material, thereby linking economic development with biodiversity conservation. Locals harvest the roots and operate and maintain the oil processing plant.

The project is also working with local government officials with the long-term goal of broadening the Humla District Forest Office's acceptance of community-based management, and act as a marketing bridge for the unprocessed and semi-processed products.



Tenure Is Nice, but Money Talks

An invaluable contribution that project partners have made is to facilitate tenurial security for many of the forest user groups. In this case, however, the tenure is all the more important because it has substantial cash royalties that are associated with it. It is hard to imagine the communities taking the same high level of interest in this tenure process without the payments as a motivating factor. To ensure that a steady stream of benefits flow now and into the foreseeable future, it is imperative that the CFUGs' extraction rates do not exceed the incremental yield. A key task for the partners and local institutions in this regard is to raise the environmental awareness level among the local people.

the year, as the CFUGs who have recently been handed over their forests have now started collecting royalties on non-timber forest products. The CFUGs that have been receiving royalty payments have been discussing ways to invest their group funds. The options under discussion include: village electrification using solar power, trail construction activities, small-scale edible oil pressing, and tree sapling planting near villages to control soil erosion and landslides. Some money has been used for paying watchmen's salaries, in order to protect forest areas from illegal harvesting of products. All investments from the royalties collected from natural products will have some connection to general village development or natural resource conservation. The individual groups will decide for themselves how to best use these funds.

The Federation of Community Forest User Groups

During the fall of 1997, representatives from all 19 CFUGs in Humla along with representatives of the District Forest Office met to discuss common issues, and the Humla Federation of Community Forest User Groups was formed. This was a significant step in the direction of assuring long-term locally based resource control and management of biodiversity in Humla. While this organization is receiving technical support from HCDA, it is functioning as an independent institution and is widely viewed as a positive development in the district by both communities and district-level government officials.

The Federation and its members continue to put pressure on the District Forest Office to hand over forest and pasture areas to organized communities. This step is essential because it provides local communities the organizational means to carry on with community forestry development activities beyond the life of the project. During the spring and summer months the Humla Federation established a working relationship with the national-level Federation of Community Forest User Groups of Nepal. This will further enhance the transfer of information flow between Humla, other community forest groups, and national-level policy-makers, thereby increasing the influence these groups have in shaping forestry and conservation policy.

Product Diversification

In 1998, two new oils, *Rhododendron anthopogon* and *Valeriana jatamansi* were successfully distilled and marketed. Alongside our established products of jatamansi and juniper berry, this now gives us four different oils that we can commercially produce in Humla. We will be promoting these oils in the coming years to diversify our revenue stream and minimize our dependence on jatamansi oil.

Conservation Education

The support of basic literacy education remains a priority with HCDA. Conservation education material was specifically developed for Humla and distributed at 15 post-literacy classes. In total 300 copies of the specially prepared book were distributed in the district.

CHALLENGES

Getting Reliable Supplies of Raw Materials

In November 1997 snow came early to the Himalayas, decreasing the amount of material Humla Oil Pvt. Ltd. could purchase for processing by 78% over the past year. Since there weren't enough raw materials to assure steady operation, both factories were shut down until April 1998 to reduce salaries and other expenses and to conserve Humla Oil's working capital. In the spring, we collected jatamansi for testing. While the oil distilled from this material was of acceptable quality, the impact on the resource base could not be ascertained. No further collection was undertaken to supply Humla Oil in light of a self-imposed ban on spring collecting. An ongoing challenge facing Humla Oil is the supply of raw material of consistent quality.

No further collection was undertaken to supply Humla Oil in light of a self-imposed ban on spring collecting.

Dealing With Communities That Break the Rules

As reported last year, one village group, under the influence of their community leader, purposely adulterated the raw materials in order to increase payment to the collectors from the factories. The purchase of this poor quality material by Humla Oil in 1997 was the result of insufficient supervision of the purchasing process by the manager. Subsequently, Humla Oil brought a purchasing manager onto the management team who is responsible for both the quality of the raw material and ensuring that the factories receive sufficient stocks of material to assure their consistent operation over the course of the year. Hopefully this position and a new standardized purchasing system will prevent a repeat of the previous raw material quality control problems.

Finding Markets

Entering into a complex market such as essential oils in India, and establishing a consistent sales presence, is difficult for a new company far removed from communications and road access. Changes in the marketing staff part way through the project didn't help. A new person is now picking up the marketing responsibilities, but the delay cost the company loss of potential sales and tied up working capital in unsold stock. We should have placed a higher priority on getting dedicated sales staff in place earlier in order to strengthen Humla Oil's presence in the market.

Entering into a complex market is difficult for a new company far removed from communications and road access.



Management in Action

Based on the detailed record-keeping at the two factories that measures the raw inputs and processed outputs at the steam distillation plant, enterprise management realized that the efficiency of the older factory is barely half of the newer one. Now management has decided to concentrate future production of jatamansi at the newer factory and to use the older distillation plants for rhododendron oil.

Secondary Raw Materials Go Up in Smoke

In order to distill the oil from the jatamansi, the enterprise also needs raw materials in the form of fuelwood. Last year approximately 300 tons of wood went up in smoke. It is critical to carefully manage not only the primary raw materials, but also the resources used to process the oils. Humla Oil is now planning to develop an environmentally friendly micro hydro project that will provide a better source of power.



Getting to the Market

The Humla Oil experience underscores the importance of marketing for enterprise success. Furthermore, it shows the huge amount of work that local communities have to do to try to reach international markets. If we have learned one thing, it is that any new business must figure out its marketing plan in some detail before attempting to begin production.

Keeping the Golden Goose Alive

A recent BCN site visit team was heartened by the response of a CFUG leader to a question about community awareness and adherence to sustainable harvest practices. He said, "We are realizing the value of these plants and will not kill the goose that lays the golden egg." Still, good intentions need to be translated into concrete actions and this can perhaps be initiated through formal pre- and post-harvest discussions among the collectors in the various CFUGs.

In the international market, Phoenix Aromas and Essential Oils in the United States continues to promote our oils with larger commercial manufacturers, so far, with mixed results. However, from the start, we expected that this market would take several years to develop. We previously reported that Humla Oil's participation in the Natural Products Expo in 1997 uncovered a number of leads. In 1998 FPI agreed to act as Humla Oil's agent in Europe (similar to the type of support Phoenix provides Humla Oil for North America). This is a development that Humla Oil has been pursuing for some time. Accessing Indian buyers was initially problematic because Humla was unknown to them, but currently, the majority of the jatamansi oil moves into the Indian market with smaller quantities going to Europe and the distributor in North America, and additional market investigations continue. And the latest good news from Humla Oil is that we have found an Indian buyer in Kanpur for most of our materials.

Plunging Prices

As Humla Oil investigates new market opportunities in Nepal and India, the price of jatamansi oil remains at a five-year low in the local market. Humla Oil has attempted to resist pressure to sell at this lower price in order to cultivate higher value markets. While the development of a higher price for jatamansi oil will benefit all Nepali producers of this oil in the long run, Humla Oil was forced by the need to finance ongoing activities to price their oils lower in order to stimulate sales in India and Nepal. Humla Oil also sold second-quality jatamansi root to traders in Nepalgunj as a way to increase income and dispose of material not suitable for distillation.

Product Development

Oftentimes, product developers are not familiar with the oils and require long lead times to work up product formulation for their use. One reason for this is the relatively new nature of the oils being offered. Another barrier has been the lack of scientific data (such as skin toxicity tests) on certain oils that prevents them from being used in some skin and hair products in the United States and Europe.

Biological Monitoring: Keep It Simple

Setting up a biological monitoring system in Humla was tough. A year into the project, the system under development was deemed too costly and academic and the task of developing a simpler system began anew. This process was hampered by difficulty with the scientific team in the field. Eventually we devised a workable system involving only project staff and some community members. These teams finally completed their inventory and regeneration activities in the Humla project area. Working with community members, they mapped resources and continued work on the regeneration aspects of the commercially utilized plant species.

Setting up a biological monitoring system in Humla was tough. A year into the project, the system under development was deemed too costly and academic.

In an attempt to transfer monitoring activities directly to communities, HCDA and ANSAB developed and transferred CFUG management guidelines. A biological monitoring record-keeping system is being pre-tested with the CFUGs. As part of the ongoing conservation lobbying efforts of the project, we held discussions with some CFUGs and Humla Oil management, about the enforcement of harvesting methods and seasons. As a result of these discussions, collector groups and Humla Oil management have agreed that the best time to collect the jatamansi roots would be in late Fall. Collecting in spring would presumably affect the regeneration potential while the quality of oil extracted in September and October would still be acceptable. Therefore springtime harvesting was curtailed.

Further discussions are ongoing to implement a community-driven monitoring system to be integrated into the CFUG current management and reporting plans. This is seen as a way to ensure that some basic level of biological monitoring is carried out directly with a minimum of outside technical support after the project ends.

Transferring the Enterprise to the Community

Last November, we held discussions with community members regarding the operation, management, and ownership of the company as part of the Humla Oil Pvt. Ltd. handover. Shareholding and partnership in a manufacturing company has never been done before in Humla. Humla Conservation and Development and the management of Humla Oil are briefing the communities on the processes that must take place so that actual ownership in the company can be formally handed over to community-based institutions.

Shareholding and partnership in a manufacturing company has never been done before in Humla.

As a result of our discussions on share ownership, we resolved that shares in Humla Oil would not be made available to individual buyers; only groups and community-based organizations would be allowed to purchase shares. These groups include Community Forest User Groups, local NGOs (including HCDA), the management of Humla Oil (as an institution, not the current individuals), schools, and other similar community-based organizations. This seemed to be the most equitable arrangement and would prevent any one person from capturing the ownership of the company.

A great deal of education will be required so that collectors understand the concepts and practicalities of shareholding in a private company, as well as the benefits and risks associated with actual business ownership. These efforts will culminate in the first round of share sales in the late fall of 1998.





Personal Relationships

This story underscores the importance of personal relationships in making innovative conservation actions work. It seems that government bureaucrats and marketing contacts will often only “take chances” on new community projects if they have an established personal relationship with the project team.

BCN Commentary: Ganesan Balachander, Director, Manila.

Turnover of Government Officials

One of the greatest challenges is the frequent changing of Forestry officials at the district level. When the chief District Forest Officer (DFO) is transferred from Humla, there is often a gap before the new one arrives. Yet without a DFO in charge no official action can take place, including the handover of community forests. Once the new officer is in place he needs time to understand the district and his own staff and often by the time he has reached this point he is transferred. This situation makes it hard for the project staff and communities to develop a relationship with these people and move official business forward.

LOOKING TO THE FUTURE

The Humla Conservation and Development Association continues to solidify activities and expand into new adjacent areas. An agreement with the Dutch Government’s Karnali Local Development Project (KLDP) was reached to implement development activities in new areas of Humla. KLDP also recruited several of the HCDA and Humla Oil staff (and ANSAB staff as well) to participate as trainers in a region-wide training they were conducting on natural resource management in January 1998.

HCDA is now considering funding needs going forward past the end of the BCN project in order to continue to support the development of community



BCN STAFF

forestry in Humla. HCDA is included in several EnterpriseWorks proposals to develop other natural products from Humla and is expected to be an active partner should these activities go forward. Regardless of these proposals, HCDA has secured funding to operate into the next year and will continue to support community forestry and enterprise development in the district. Humla Oil Pvt. Ltd. will operate indefinitely, as long as operations are profitable and the products can be sold. The district of Humla now has several strong new local institutions that will support and encourage the development of natural resources and the conservation of the rich resource base that the people of Humla now have tenure over.

Humla Oil Pvt. Ltd. will operate indefinitely, as long as operations are profitable and the products can be sold.

Story: Jeff Dickinson, a member of the EnterpriseWorks Worldwide staff. Jeff has been working in Nepal on an intermittent basis for nine years, the last five almost exclusively in the development of a natural products program.





Rhinos and TIGERS and Crocs - Oh MY!



HANK CAULEY

Now that people living near Chitwan National Park are directly benefiting from ecotourism, they can afford to be more tolerant of big game living in their backyard.



What's Happened Over the Past Year?

Continuous biological monitoring shows an increase in the number of birds, crocodiles, rhinos, tigers, and ungulates in the newly created habitat in the buffer zones of the park.

The fact that the animals are reproducing and being preyed upon indicates good biological processes in the woodlots. Sightings of threatened bird species, such as the black crested baza (*Aviceda leuphotes*) which had not been seen for several years, are signs of the forest's revival.

The cumulative number of rhinos increased to 23 in Baghmara and 25 in Kumrose. A calf born in Baghmara increased the total number of calves in the regeneration areas to 26.



ROYAL CHITWAN
NATIONAL PARK,
NEPAL



PARTNERS:

- .. KING MAHENDRA TRUST FOR NATURE CONSERVATION (KMTNC)
- .. WORLD WILDLIFE FUND (WWF-US)





BON STAFF

Continuous biological monitoring shows an increase in the number of birds, crocodiles, rhinos, tigers, and ungulates in the newly created habitat in the buffer zones of the park.

To study the vegetation dynamics, we established permanent plots inside the park as well as in the plantation and regeneration areas. A new plantation was created in a 10-ha area in the northern part of the Baghmara community forest. Baghmara and Kumrose community forests have spawned several more income-generating programs and community-development programs from their own incomes. These include beekeeping, income generating activities for women and the disadvantaged, and infrastructure development. Buffer zone user groups were formed in all the village districts and a council of representatives from the buffer zones defined the activities that could go on inside them and allocated money to them accordingly. A great enthusiasm was seen among the people.

The Baghmara model of community forests and ecotourism is being replicated in Kathar, Bhandara, and Ratna Nagar, with the support of Save the Tiger Fund, a special project of the National Fish and Wildlife Foundation created in partnership with Exxon Corporation. A further 1,200 hectares of highly degraded land has now changed into community forests totaling 2,800 hectares that have come under community management through the KMTNC/Nepal Conservation Research and Training Center project. The Baghmara and Kumrose community forests have generated NRs 15,32,945 (U.S. \$22,430) and NRs 5,07,055 (U.S. \$7,420) from tourism and NRs 8,55,370 (U.S. \$72,516) and NRs 3,55,701 (U.S. \$5,205) from other sources this year. As well, a total of 35,446 and 5,891 tourists visited Baghmara and Kumrose respectively.

SUCCESSSES

A New Attitude Towards Wildlife

The project has generated guardianship among the local residents for the endangered species and for their habitat conservation. Local people arrested poachers who were trying to kill rhinos by setting toe-chain traps in Baghmara and turned them over to the chief warden of the park. The residents involved in catching the poachers were rewarded with a cash prize and a certificate from the government. National newspapers covered the story. These days, if locals see an injured or dead animal they report it to the park authorities immediately. Or if baby crocodiles are found in the rice fields or villages, they are released in lakes and ponds within the community forest.

This year a tigress from Baghmara community forest became a man-eater and killed a man. She behaved very unusually, entering houses and looking for people even in the daytime. This generated fear among the villagers. Some people who were jealous of the success of this project tried to agitate people against the Community Forest Committee by saying that it was due to the community forest that the tigress came to that area and the incident took place. But



PROJECT OVERVIEW

What's at Stake?

Royal Chitwan National Park (RCNP) is one of the richest areas of biodiversity in all of Asia. Each year thousands of tourists and trekkers visit the park to see its rhinos, tigers, crocodiles, and hundreds of other animal and bird species. Unfortunately, this island of biodiversity is surrounded by more than 3 million people living in poverty. Both these people and the visitors are putting increasing demands on the park, jeopardizing its environmental integrity. And with the local population growing at 2% annually, things are only going to get worse.

In the past, a large part of the problem was that communities bordering the park did not directly benefit from it. In fact, they felt they suffered because of it. The park's valuable resources were out of bounds, sometimes the wildlife ate or trampled peoples' crops, few locals found employment in the park, and the communities received none of the tourism revenues from the park.

What's Being Done About It?

To address these problems, King Mahendra Trust for Nature Conservation and its partners developed a two-part strategy. The first part involves drafting and passing legislation to share 30 to 50% of park revenues earned on tourism taxes with local communities. Village user groups receive these monies and decide how to use them. The second part involves creating woodlots in the park's buffer zone to reduce the need for wood collection within the park and provide more wildlife habitat. By benefiting from park revenues, and having their needs for fuelwood met, the project team hopes that local communities will realize the advantages of conserving the park's diverse biological resources and will participate in conservation efforts.



Weighing the Costs and Benefits of Wildlife as Neighbors

The density of the megafauna has increased in the bufferzone plantations. In the old days, this increase in animal populations would have surely led to increased antagonism towards the wildlife from neighboring peoples. The fact that these people are regarding the wildlife favorably is a powerful argument that they understand the link between their tourism income and the wildlife and view the benefits as outweighing the costs. KMTNC and its local partners must ensure over time that people's perceived benefits from wildlife continue to outweigh the perceived costs. This can be achieved by working to both increase the benefits that people receive from the tourism enterprises and decrease the costs that result from conflicts between wildlife and people.

local residents did not listen and even in such a situation, no antagonism was found. The tigress has since been captured by our technicians and sent to the Central Zoo at Katmandu. The Baghmara Community Forest Committee provided financial assistance to the bereaved family to support their children's education. Similarly, in Kumrose the tiger killed several livestock but no hostility was seen among these people either. Acerbity of people towards wildlife seems to have decreased.

This year a tigress from Baghmara community forest became a man-eater and killed a man, but even in such a situation, no antagonism was found.

A New Self-Reliance

The user groups of both Baghmara and Kumrose community forests are now able to cover all management costs of the community forest. They have also started programs that include: infrastructure development for schools; scholarships for poor students; construction of bridges; culverts; and irrigation canals; methane gas digester construction; road repairs; women's literacy programs; loans to farmers for beekeeping; bee house distribution; wildlife medication; support for people injured by wildlife attacks; health and sanitation programs; distribution of saw dust stoves; drinking water programs; as well as several other income generating programs for women and socially disadvantaged people. These activities have provided the community forest groups with higher social status. As well, the incomes of both Baghmara and Kumrose have reached the highest among such forestry user groups in Nepal.

Success Breeds Success

The Kumrose community forest recently started a canoe program in Dhungre River, which flows between Bacchauli and Kumrose villages. The easy sighting of animals in the forest and crocodiles in the river are attractions for tourists on elephant safaris or canoeing.

The supplies from the woodlots, the income generated from activities inside the community forests, and the programs developed to decrease wildlife depredation have helped to win more peoples' hearts. A large number of local people now have a feeling of ownership of the community forest as indicated by their participation in the general meetings. Furthermore, many members of the community forest users-group are now involved in activities such as controlling poaching and other illegal acts. Still, a few people are not able to understand the ownership of community forests, so more motivation work is still needed. The Baghmara community forestry model has been highly regarded by many national and international institutions and individuals.

A large number of local people now have a feeling of ownership of the community forest.

Building on Our Foundation

We have also used the model that we developed under this project to protect Tikauli Forest, which is the only corridor forest of Chitwan Valley linking the Siwalik ecosystem to the Mahabharat ecosystem. According to the plan, a 300 to 500m wide forest belt on both sides of the corridor forest will be managed as community forest. This will serve as a wall on both sides of this forest providing special protection to the core zone of the corridor forest and making animal migration more safe and undisturbed.

Nature Guide Training

Fifty people including numerous youth received training as nature guides. A follow-up survey indicated that the earnings of the junior guides increased by 34% and the senior guides' income increased by 36%. Besides economic benefits, 94% felt that their enhanced knowledge and awareness on issues of tourism and environment has improved their performance.

Impact of Interventions — The Chitwan Index

Social and biological monitoring efforts show the following results:

- 48% Livestock that have been switched from free-roaming to stall-feeding.
- 54% Residents who have stopped grazing their animals in the forest.
- 32% Households that are getting fodder from the community forest.
- 54% Households that are getting fodder from their cropland.
- 2% Households that are still collecting fodder from the park.
- 23% Households that are able to meet complete firewood demands from community forests. (Among the households whose demands are not completely met from the community forests, only 9% are still collecting from the National Park.)



NICK SALAFSKY



- 4% Households whose firewood deficit is met by crop residue and dung cake.
- 77% Households that are actively participating in the community plantation programs.
- 31% Households that have planted trees on their private lands to meet their fodder and firewood demands.
- 80% Households interviewed that felt that the community forest has not created problems. (Even those who feel there is a problem don't want to blame the community forestry program. One issue is that the forest is being regenerated on what used to be pasture and had been used for grazing.)
- 81% Households interviewed that were satisfied by the performance of the Community Forest Users Group Committee.
- 79% Households that mentioned that crop depredation by animals has decreased.
- 27% Fewer fines issued for collecting grasses and fuelwood.

- 1500 Hectares of land brought into the community forest and handed over to the local people.
- 25 Endangered species using the plantation areas. (The community forests provide habitat for 42 rhinos, three adult tigers and two tiger cubs.)
- 122 Different birds observed in natural regeneration areas.
- 116 Bird species counted in the plantation area.
- 9 Local people trained to conduct socioeconomic and tourism surveys.
- 2 Local people trained in bird monitoring.
- 2 Local people trained in vegetation monitoring.
- 20 School students who received environment training.
- 9 Local people trained in GIS application.
- 21 User group members trained in management skills.
- 76 Stakeholders taken to Annapurna Conservation Area and Pokhara for an observation tour.
- 6 Vegetable cooperatives formed.



TOM KELLY

Monitoring efforts showed that 77% of households are actively participating in the community plantation programs.

CHALLENGES

A Lack of Clearly Defined Regulations

There are several issues, which if not clearly dealt with in the buffer zone regulations, could create lots of problems in the future. For example, the regulations do not mention the authority of people from outside the buffer zone to use them. According to the buffer zone regulations, the wardens are supposed to monitor all activities under the program, but the limitation of manpower may create difficulties in monitoring and evaluation. Since this program is very new, people are still in confusion. So, lack of sufficient guidance and monitoring could lead to failure of the program.

Buffer zone regulations also technically do not allow the selling of excess firewood or timber. This is a problem since the sale of timber from the plantations in the buffer zone is a major source of income to the community and thus one of the primary motivations for the replanting. If the government chose to enforce these laws, problems could ensue.

Finally, the community forests within the buffer zone are under the jurisdiction of the national park. Since the animal sightings in the community forests are often better than in the park, the hoteliers are starting to take visitors into the community forest instead of the park itself for trips like the canoe excursions. The park authorities could potentially crack down on the buffer zone forests if they feel that their revenues from tourism are being siphoned away by the community forests.

The park authorities could potentially crack down on the buffer zone forests if they feel that their revenues from tourism are being siphoned away by the community forests.

Competing Interests

The earnings from the micro-enterprise activities and programs carried out by the communities have attracted local politicians who now want to take credit for work done by the User Group Committees (UGCs) formed under the BCN program. They want to impress people. Consequently this may increase rivalry among the users and develop conflicts, which could negatively affect the project activities.





Success Has Many Parents

An old proverb states that “Success has many parents but failure is an orphan.” When projects work, there is often a rush of people trying to take credit for them. As the project team points out, this very rush to claim success may actually contribute to problems as rivalries and jealousies develop. One can imagine that if these rivalries were to lead to the project’s demise, these same politicians would not be quite so eager to claim involvement. Perhaps the true test of the project will be whether the community members will be willing to support the Park in more difficult economic times as well as in good ones.

Cooperation Between User Group Committees and Hoteliers

Recently, Baghmara and Kumrose community forests decided to increase the tariff of the elephant safaris. But hoteliers were not happy with this decision. This has developed a conflict between the UGCs and hoteliers. To solve this problem, the project staff organized a meeting to discuss the issue and to negotiate between the UGCs and the hoteliers. Both of them agreed to increase the tariff of the elephant safari and also made an agreement to give responsibility for managing canoe excursions to the hotel association who will charge NRs. 120 per tourist. Out of this, NRs. 50 (U.S. \$.73) goes to the hotel association and NRs. 35 (U.S. \$.50) to Baghmara and Chitrasen community forests each. Such problems might continue in the future and if not solved, could affect the business of the community forests.

How to Market the Viewing Towers

We are not able to market the machan (viewing towers) enough. We still need to learn more about how to market this business. We also need to learn the possibility of integrating other enterprises so that the income could be increased and more options can be marketed.

Dependence on External Monitoring

Monitoring is very important for better management. Both biological as well as socioeconomic monitoring are needed to maintain biodiversity and to maintain transparency. Lack of information on biodiversity will affect resource management and lack of transparency will increase disputes among the members of the users group. The dependency of the users group on external agencies and NGOs for monitoring can become problematic, resulting in the failure of the project in the future when these agencies leave them. To avoid this, we have conducted management training for the user group members and in the near future plan to conduct monitoring and evaluation training for the users.



BCN STAFF

Lack of information on biodiversity will affect resource management and lack of transparency will increase disputes among the members of the users group.

An Increasing Population...

Population growth rate in these areas is very high: 2% each year. Furthermore, there is extensive migration to the region. The Tharus, the indigenous people of the Terai, have already become a minority (32%) in their own land. If these trends continue, they will create problems because the ability to increase benefits from the forest is limited. Also when the benefits are distributed amongst more people, their impact is not as effective because everyone gets so little — which decreases people's interest in conserving forests.

The Tharus, the indigenous people of the Terai, have already become a minority in their own land.

...Means Increasing Demands on Resources

The demand for firewood and timber is 219,905 and 33,002 tons per year respectively. The demand for fodder is 92,622 Total Digestible Nutrient (TDN) tons per year. The existing outside supply sources can not supply this demand so there remains a deficit of 45,101 tons of firewood, 4,111 tons of timber, and 26,914 TDN tons of fodder which is met through the collection from the park. The increased poverty due to population growth and inflation of the market has increased the dependency of the people on the forest. People are forced to encroach on forest land to increase agricultural production for food. When people surviving on forest collection are denied access to the resources and on top of that their livelihood is jeopardized due to crop and livestock depredation from increased wildlife, the result is increased conflict. Resentment among the people towards the wildlife encourages poachers and this could be a very important threat.

LESSONS LEARNED

The communities bordering Royal Chitwan National Park include people in 36 villages representing a wide range of cultures. A common belief is that it is easier to run community forests in an area with a homogeneous community, but success of Baghmara proved that even in a heterogeneous community, it is possible. Baghmara, Kumrose and also Jankauli community forests users groups contain equal percentages of indigenous Tharus and hill migrants. Indigenous people like Tharu, Derai and Bote are highly dependent on forests. The reason for their dependency is because they were forest dwellers in the past and their cultures also bring them close to the forest. In the area dominated by traditional forest dwellers, it is difficult to launch community forest programs and to change their attitude to bring them along in conservation.



Providing Government Services

As a development and conservation oriented organization working among marginalized communities, it is tempting for KMTNC to act as a “surrogate” for the government, channeling various kinds of services to them. The same can be said of the recently established Baghmara and Kumrose buffer zone user groups. These groups could easily dissipate their resources or even bankrupt themselves trying to provide all the services that the local people require. It is thus probably a good idea for these organizations to evaluate their strengths and comparative advantages and then develop a mission and long-term strategic plan that will enable them to maintain their focus.



Buffer Zones as a Complementary Conservation Strategy

The Chitwan project's emphasis on changing the government regulations regarding the distribution of eco-tourism benefits from the park fits squarely within the original linked-enterprise focus of the BCN program. However, since the outset of the program, we recognized that the project's emphasis on rehabilitating degraded buffer zone lands was at best marginally within the BCN linked-enterprise focus. It is now fascinating to note that it is really the combination of these two strategies — the direct linked enterprise and the buffer zone rehabilitation — that has led to the conservation success of this project. This realization underscores BCN's basic conclusion that enterprise-based approaches work only in conjunction with other strategies.

The regeneration in the highly degraded ground indicates that the nearby forest or the few leftover trees could contribute to creating forest in highly degraded lands at a low cost. The monitoring findings show that the regenerating areas are favored by wildlife. They are especially attracted to the leguminous species. The quick colonization of the newly created forest by animals indicates need of such habitat for spillover populations. Research also provided the idea for identifying more potential lands for regeneration or plantation.

The experience from Baghmara and Kumrose community forests has taught us that only enterprise-based approaches to conservation can be sustainable. If there is no benefit, rural people living around rich biodiversity cannot understand the value of protecting it. They will not volunteer to help with protection because, due to the weak economy, they have to spend most of their time generating income to support their families. When enterprise is linked to conservation, it encourages people to conserve those resources and is the easiest means of teaching the values of biodiversity conservation.

The experience from Baghmara and Kumrose community forests has taught us that only enterprise-based approaches to conservation can be sustainable.

As we pointed out last year, there is, in Nepalese society, a saying that "If you want to control stealing by any household member, then give him or her the keys to the treasury." Likewise, in the case of projects, in order to control problem creators, it is wise to include them and give them responsibilities in the project. This not only involves them, but also gradually changes their attitude. This has been an important lesson in this project.

All the new projects that our organization is developing are designed based on the lessons learned from KMTNC/BCN project. We have plans to establish enterprise-based habitat restoration programs (community forests) in all potential areas around Royal Chitwan National Park and probably around other protected areas also. We need to produce more publications about our successes with the Baghmara and Kumrose model so that people involved with similar programs will benefit from our experiences. Publication will also help us to find interested donors for our future programs.

LOOKING TO THE FUTURE

The general meeting of the Baghmara and Kumrose Community Forest Users Group recently took place. At this meeting, the estimated budget and the activities for the coming five years were approved. Chitwan is a magical place teeming with wildlife. It is also literally an island surrounded by a sea of humanity that is living literally at the margin and is dependent on the forest



TOM KELLY

wealth to subsist and eke out a living. The work by our project, along with the national legislation, allows for greater benefits for local communities and has implications for conservation in biodiversity-rich, yet poor countries.

Story: Arun Rijal and project staff of the Nepal Conservation Research and Training Center (NCRTC) of the King Mahendra Trust for Nature Conservation. Arun Rijal has more than 10 years of experience in the field of biodiversity conservation and has designed several integrated conservation and community development programs. He has a master's degree in botany and in natural resource management.

Replication

KMTNC is rightly thinking about replicating its efforts in areas beyond Chitwan. Assuming that they can keep from stretching themselves too thin, based on the lessons learned (and with the active involvement of the local people) KMTNC can greatly increase its impact through replication.

BCN Commentary: Ganesan Balachander, Director, Manila, and Nick Salafsky, Senior Program Officer, Washington, D.C.



Creating a Land of SILK and HONEY

Remote Himalayan villagers encounter technical difficulties with their enterprises, but discover that ancient institutions can point the way.



What's Happened Over the Past Year?

This year marked a significant turning point in all of the project's activities. Both companies registered as part of this work achieved significant leaps in production (see the chart on the next page). Devbhumi Madhu Pvt. Ltd. received Agmark approval from the Government of India and began marketing honey under its own brand name along the pilgrim routes to the shrines of Badrinath, Kedarnath, and Hemkhund Sahib. To date Rs 125,000 (U.S. \$3,125) worth of attractively bottled honey has been sold. Given the difficulty in obtaining bee colonies and maintaining them in the villages, the company adopted a three-pronged strategy: the introduction of improved wall hives into village houses which will form the core of local production, transport of box hives to varying altitudes depending on climate and availability of pollen and nectar, and purchase of honey from producers in the foothills of the Terai. A processing unit at Rani Pokari has been leased until the company's unit is constructed.



GARHWAL,
INDIA



PARTNERS:

- .. ENTERPRISEWORKS
WORLDWIDE (FORMERLY
APPROPRIATE
TECHNOLOGY
INTERNATIONAL)
- .. APPROPRIATE
TECHNOLOGY INDIA
(AT INDIA)
- .. KUMAUN UNIVERSITY
- .. CHAMOLI TASAR PVT.
LTD.
- .. DEVBHUMI MADHU
PVT. LTD.
- .. SMALL INDUSTRIES
DEVELOPMENT BANK
OF INDIA





Outsourcing Supplies

From a strict conservation perspective, it would obviously be ideal to only use locally produced honey. However, in the interest of getting the enterprise up and running and establishing a brand name, the enterprise has had to supplement local production with honey purchased from outside of the immediate project area. The enterprise has to rigorously enforce quality control in sourcing to ensure a wholesome product to the consumer.



SANGO MAHANTY

Chamoli Tasar Pvt. Ltd. was able to achieve complete self-sufficiency in silk-worm seed (eggs) with substantial surplus for spinning and reeling into yarn. It is poised to begin selling its first yarns on the silk markets. (We initiated silk spinning for the first time this year and it has been met with great enthusiasm by the village women, along with several men, who have shown proficiency for the skill. Training in reeling will begin before the end of the year.)

Production and Participants in Honey and Silk Enterprises

Year	Honey Production (kg)	Silk Production (cocoon)	Honey Participants (families)	Silk Participants (families)
1996	3	64,000	14	20
1997	70	183,000	53	35
1998 (Jan-Jul)	4,800	600,000	70	90

Chamoli Tasar Pvt. Ltd. was able to achieve complete self-sufficiency in silk-worm seed (eggs) with substantial surplus for spinning and reeling into yarn.

Finding the Balance

The communities have adopted a model of enterprise that promotes community proprietorship integrated with a strong conservation awareness. Ownership of the companies lies with the participating village institutions, the Van Panchayats and Mahila Mangal Dals, which are also the primary conservation organizations at the village level. These organizations will play a key role in assuring that the conservation objectives intrinsic to both companies are never sacrificed for material gain.



On the conservation front, the biodiversity team led by Professor S. P. Singh, Head of the Botany Department at Kumaun University, has been able to refine the project's conservation strategy to a manageable program that is feasible for field implementation. Based on the team's field research, we have found that the environmental degradation that is being experienced in its early stages comes not from overextraction of biomass in the form of fuelwood and fodder, but rather in the inappropriate extraction methods in use. This has allowed us to focus our conservation strategy with Van Panchayats and Mahila Mangal Dals to improve lopping (pruning rather than killing the plant to obtain fodder), control grazing, and promote better fodder preparation that makes more efficient use of the gathered leaves. In addition, the Van Panchayats, Mahila Mangal Dals, and AT India have formally requested the forest department to officially recognize tasar rearing as an appropriate activity in reserve forests. The issue is under consideration. While access to reserve forests is not critical to the success of the tasar operations, the village communities are of the view that they should be allowed to harvest oak leaves from these forests if they so wish.

The Power of Religion and Tradition

The project site is nestled along pilgrimage routes to some of the most important Hindu temples. Religion still strikes a powerful chord among the populace, and when the religious symbolism is married to "sustainable management" once practiced by local institutions such as the Van Panchayats, the combination can be a potent force for conservation.

PROJECT OVERVIEW

What's at Stake?

The rugged mountains of the Garhwal district are the source of the Ganges River and contain some of the most sacred Hindu temples. These mountains have historically been covered by a vast belt of oak forests and alpine meadows that are home to the endangered snow leopard, black bear, bharal deer, and musk deer. These forests were traditionally managed by local community institutions, including the Van Panchayat (community forest council) and Mahila Mangal Dal (women's organization), and by the Uttar Pradesh State Forestry Department. Unfortunately, problems in these institutions led to increasingly open-access resource conditions. As a result, the rich biodiversity of the region is severely threatened by overgrazing and excessive harvesting of non-timber forest products as well as unsustainable fuel and fodder collection.

What's Being Done About It?

To counter these problems, the project team is working to establish community-based oak tasar silk and honey production enterprises in Akash Kamani and Mansuma Valleys. Tasar silkworms (*Antheraea proylei*) are species that thrive not on domesticated mulberry leaves, but on oak leaves from the forest. The silk enterprise is divided into a centrally run grainage that produces silkworm seed (eggs) for sale to community members, household run rearing enterprises that use oak leaves to feed the silkworms, and a centrally operated silk reeling and marketing enterprise to process silk thread that is sold to cloth manufacturers. The honey enterprise involves developing beehives near houses. The bees forage for nectar in natural forests, alpine meadows, and agricultural lands.

In addition to setting up these enterprises, the project has been working to strengthen and revive the local resource organizations and to develop joint forest management efforts with the forestry department. These efforts are particularly timely as the hill districts of Garhwal have recently realized their dream of forming the new state of Uttranchal.



Avoiding the “Living Dead”

Given the population pressures, dependence on land and livestock for a living, and inappropriate extraction methods, vast areas of once productive forests in the Himalayas have become deforested through what Dr. Singh refers to as “chronic disturbance.” One obvious cause of this creeping deforestation is uncontrolled biomass removal. A second and more insidious cause is uncontrolled grazing that destroys regenerating tree seedlings while leaving the adults intact. If this pattern continues over time, the lack of tree regeneration leads to “living dead” forests that look healthy, but have no long-term future. In the project catchment areas, which still have healthy forests, applying improved harvesting techniques derived from the project team’s field research, and controlled grazing may yet allow for sustainable use of resources and avoid the development of the “living dead.”

We have found that the environmental degradation that is being experienced in its early stages comes not from over extraction of biomass in the form of fuelwood and fodder, but rather in the inappropriate extraction methods in use.

CHALLENGES

Tenure and Control Over Forest Resources

As we discussed last year, a major problem is tenure. The ultimate control of the forests and forest resources still largely rests in the hands of the government and not in the hands of the people who are directly involved and affected. We have come to learn that even those local institutions that are supposed to be able to manage local resources are dealing with severe restrictions. For example, the Van Panchayats theoretically have control over the use and management of village forests, but the financial resources derived from these forests are controlled by the Revenue Department. This means that the funds generated by sale of wood, grazing rights to outsiders, and fines and other fees are not at the disposal of the Van Panchayat, but rather are managed by the Revenue Department, which takes most of the funds for its own purposes. This arrangement is a serious disincentive for the villagers who feel that they don’t really have control over their resources even where institutional arrangements would seem to imply that they do. So the policy issues loom large.



NICK SALTSKY



The Van Panchayats theoretically have control over the use and management of village forests, but the financial resources derived from these forests are controlled by the Revenue Department.

We succeeded in convincing the Principal Chief Conservator of Forests for Uttranchal to issue an order instructing the forest department officials to allow the harvest of oak leaves for tasar rearing in reserve forests on an experimental basis. In terms of policy this is a major accomplishment. This accomplishment came about because AT India, along with participating Van Panchayats and Mahila Mangal Dals, wrote to the Forest Department requesting official recognition of sustainable tasar-related income-generating activities. The main priority of the project now is to develop a cordial and influential relationship with the officers who make up the hierarchy of the Forest Department of the newly created Uttranchal State. We intend to engage the Forest Department even more so in the future by conducting joint training sessions as well as working with them on their joint forest management program and their live-stock replacement program. The District Forest Officer has already requested our help on a number of activities and we eagerly assist them wherever possible.

Natural Disasters and False Assumptions

In the early stages of the project, torrential rains and viral diseases of the silkworms set the project back. Major difficulties we faced as a result of these problems included securing sufficient raw materials and accessing the technical expertise we needed. Another significant shortcoming in the initial business planning was our assumption that silkworm seed and bee colonies would be readily available. Neither were, which slowed the projected pace of growth of both activities. But perseverance has paid off. Our companies were able to successfully overcome these obstacles by concentrating in the first two years on developing self-sufficiency in silkworm seed production and in devising a honey procurement strategy that realistically reflects the local conditions.

In the early stages of the project, torrential rains and viral diseases of the silkworms set the project back.

Attracting and Keeping Expertise

A second assumption that proved wrong involved finding technically capable staff. We assumed that offering attractive salaries would draw skilled people to the remote area where our project is located. However this turned out not to be the case. We then realized that we had to find temporary and part-time technical experts who were willing to train local people in the skills needed. This of course turned out to be far more desirable, and we now have a core of qualified technical staff — all from the area. As we reported last year, the government also

Setting Realistic Business Plans

The original business plans submitted with the project proposal contained silk and honey production projections that, in hindsight, were clearly overly ambitious. This project was not alone in this regard — few if any projects that BCN funded have met their initial production targets. BCN may well have contributed to this problem by implicitly asking for funding proposals that contained enterprises that could become financially viable after only a short period. In retrospect, we probably should have placed a greater premium on helping our partners produce realistic business plans.



All Systems Go

After some initial setbacks, the tasar silk enterprise now seems to be well on the road to achieving a commercial scale of operations. Even though the project team's initial set of assumptions on easy availability of raw materials and technically qualified people proved wrong, it has learned its lesson and fashioned a new strategy, which appears to be paying off. This bodes well for the future. A salient feature of the enterprise is the infusion of private sector financing for business expansion. At the same time, by ensuring that village institutions involved in natural resource management are the key owners of this community-based enterprise, conservation goals are not being abandoned.

Creating Knowledgeable Shareholders

While the ownership of the companies technically lies with the participating village institutions, it may be a long time before the villagers actually become functional shareholders. And since the project has generated profits only at an individual level, the process of benefit sharing at the company level still needs to be phased in.

made a substantial commitment, agreeing to assign a highly qualified technician to work with project technical staff for two years.

We assumed that offering attractive salaries would draw skilled people to the remote area where our project is located. However this turned out not to be the case.

SUCCESSSES

Community Commitment to the Enterprises

By far the most lasting achievement of the project will be the two community-owned enterprises. While they still have a formidable task ahead of them, they are now well established and have begun developing a track record on which they will be able to attract further support. Most importantly, they are truly owned by the community and in such a way that promotes professional management with proper oversight by the people of the region. And as we stated last year, the importance of our achievements on the technical and production fronts is being transferred to the social and biological fronts. The villagers are now actually beginning to see for themselves that the oak forests do have an economic value far beyond traditional subsistence uses and that caring for conserving such resources is important to the well-being of the entire community.

The villagers are now actually beginning to see for themselves that the oak forests do have an economic value far beyond traditional subsistence.



GANESAN BALAKRANDER

Biodiversity Monitoring

The first step in introducing monitoring to participants of AT India/Garhwal activities has been to devise a plan for monitoring the harvesting of oak leaves used for tasar silkworm rearing. Further processes for monitoring specific impacts in forests, such as regeneration of *Quercus semi-carpifolia* are being developed for implementation as well.

Oak-leaf monitoring is being conducted as follows. A monitoring team consisting of a representative of the relevant Van Panchayat and/or Mahila Mangal Dal, a member of the AT India/Garhwal conservation staff, and an employee of Chamoli Tasar Pvt. Ltd. are responsible for continuous monitoring of all forest-based rearing sites. The team makes an initial visit at the time of the selection of the sites, at which time availability of leaf is determined and a harvesting plan is drawn up. This harvesting plan consists of tree selection, timing of harvesting of selected trees, and amount of leaves to be harvested on a sustainable basis. This plan is then discussed with the Chamoli Tasar Pvt. Ltd. staff in charge of the site and villagers who will be involved in rearing at that site. The appropriate Van Panchayat or forest officer is also appraised of the plan. During the rearing period, the sites are visited regularly by the team to determine that the plan is being followed. If it is then found that harvesting is inappropriate, the team has the power to issue a warning or close the rearing site entirely. Any inappropriate harvesting is then dealt with by the Van Panchayat or other governing authority of the forest, and either the harvesters or the company, or both can be fined.

ON THE CONSERVATION FRONT

The enterprise approach to conservation promises to be the most effective approach that could have been devised in this situation. It is fully integrated with conservation objectives and there is appropriate oversight from the local institutions charged with conservation management at the village level. In many cases, the enterprise development seems to have had the effect of reinvigorating these institutions and giving them relevance. Most importantly, long after the project ends, these two companies will still be here.

LOOKING TO THE FUTURE

The project partners have just completed an expansion plan. We are intending to extend both project and company activities to four watersheds in addition to the two in which we are already active. In four years, we aim to have a total of 1,100 families involved in the companies and conservation activities.

Story: Jack Croucher, Project Advisor, along with Hanumant Rawat, Project Manager, and Sanjeev Gupta, Managing Director of Chamoli Tasar and Devbhumi Madhu.



Restoring Traditional Village Institutions

Like a restoration artist working on an old painting, the project in its own small way has been trying to restore local village institutions including, in particular, the Van Panchayats and Mahila Mangal Dals. Project staff have been working to peel away the effects of layers of government policy, which have unfortunately had the unintended consequences of stymieing and enfeebling these organizations. These restoration efforts are receiving a boost because after years of agitation the dream of statehood for the hill districts of Garhwal is appearing close to realization. The development of the State of Uttaranchal will hopefully bring greater local control and management of resources, giving a further boost to these local institutions.

BCN Commentary: Ganesan Balachander, Director, Manila; Seema Bhatt, Program Officer, New Delhi; Nick Salafsky, Senior Program Officer, Washington, D.C.



Trekking Towards CONSERVATION

NICK SALASKY

Trail-blazing efforts in ecotourism are building local capacity and economic incentives for conservation in Sikkim.



What's Happened Over the Past Year?

Over the past three years, our efforts have focused on training for income generation, capacity building for conservation, biological monitoring, and promoting policy dialogue in conservation and ecotourism development. This year our primary focus has been on building local capacity to continue critical elements of the project. In a short, three-year project, it is quite a challenge to leave something behind that will provide the basis for ongoing activities and will be able to take on new opportunities. Despite this challenge, several key achievements can be reported for the last year.



WEST SIKKIM,
INDIA



PARTNERS:

- .. THE MOUNTAIN INSTITUTE (TMI)
- .. G. B. PANT INSTITUTE OF HIMALAYAN ENVIRONMENT AND DEVELOPMENT (GBPIHED)
- .. TRAVEL AGENTS ASSOCIATION OF SIKKIM (TAAS)
- .. THE GREEN CIRCLE





Sustaining Local Initiatives

The project's activities have rightly focused on strengthening local institutions to ensure their future viability. But as the project staff point out, three years is a very short time in which to try to establish self-sustaining organizations. A big question that now needs to be addressed is: How will these groups sustain themselves financially once the project ends? Can they generate funds from tourism-related enterprises? Or can they develop their own outside funding sources?

60% Empty or 40% Full?

On one hand, having "only" 40% of the members complying with the code of conduct makes it seem like the project has a long way to go. On the other hand, we'd like to think that given that the project started with an empty glass, getting it 40% full represents substantial progress. Nonetheless, the challenge in the future will be getting the remaining tour operators to comply with the new regulations. This challenge is increased because in the future, the project will no longer be providing direct marketing support to TAAS and thus loses some of the leverage it has enjoyed. However, KCC is raising money to monitor TAAS members and other operators during peak seasons.

Increased Conservation by the Community...

Two key community-based organizations at our project sites have increasingly initiated conservation action and responded independently to local conservation needs. At Yuksam, the Khangchendzonga Conservation Committee (KCC), a group formed last year as a result of this project, has done some of its own fund-raising, continues to conduct regular clean-up campaigns in Yuksam, and has established plantations of native species around the village. Fishing has been banned in the local holy lake and a guard appointed to monitor and remove grazing animals from its periphery. One member of KCC has been appointed as an Honorary Wildlife Warden for Khangchendzonga National Park (KNP) and the surrounding forests. He has been granted authority to report poaching and other illegal activities to the Sikkim Forest Department. KCC has also already conducted training courses for over 150 porters and 25 vegetable growers at the project sites. KCC members have even participated in workshops and seminars in India and Nepal and provided technical assistance to ecotourism projects in Nepal.

At Khecheopalri, the Khecheopalri Holy Lake Welfare Committee (KHLWC) and the local community have also invested in plantations, improved conservation management of the popular Khecheopalri Mela (festival), and instituted a grazing ban in the forests surrounding the lake.

...and the Private Sector

Partly as a result of training and a range of conservation education activities, all lodge and hotel operations at the project sites have either entirely replaced fuelwood or reduced consumption. Additionally, the number of households using fuelwood in Yuksam has decreased by at least 25% since 1996. Some of the constraints to using liquid petroleum gas and kerosene, such as the lack of supplies in Sikkim and the time taken to get government paperwork done, have lessened during this period.

Another of the project's achievements was helping TAAS members to develop an Environmental Code of Conduct for Operators and Visitors. An assessment of TAAS operations along the trail indicated that 40% of members are now complying with key elements of the Code of Conduct regarding use of fuelwood alternatives, responsible garbage and trail management, plus hygiene and sanitation.

In many ways, the project will depend on TAAS members to monitor themselves. There is obviously some incentive for TAAS to do this since its members presumably benefit from the perception that they conduct "responsible" or "ecofriendly" tourism. However, there is a "free rider" problem here in having all members benefit from the "ecofriendly" label but not having all members follow the rules. The key project partners, TMI and GBPIHED together with the local stakeholders, will need to engage TAAS members and other operators in a discussion to determine how they can make sure that only those members who follow the rules are allowed to claim the benefits.

Increased Economic Returns From Ecotourism Services and Enterprises

This year we have refined training methods and materials so that site-based activities can be undertaken by local groups. Over 300 people at the sites, including porters, vegetable growers, lodge and tea shop operators, and guides, received training from the project. Due to the improved skills of porters and action taken by the project, the state-appointed base daily wage rate for porters and pack animal operators was officially increased by 30%.

We have also worked more closely with TAAS to improve their marketing activities. This work with TAAS included a review of ecotourism activities and their potential in Sikkim, and the provision of marketing assistance from an international consultant who helped produce a promotional brochure for Sikkim to be used by TAAS members. Increased revenues for TAAS members as a result of marketing assistance provided by the project have been difficult to isolate. Certainly some have benefited from a return exchange with the Trekking Agents Association of Nepal and increased business contacts, while others have participated more actively in national and international trade fairs.



PROJECT OVERVIEW

What's at Stake?

The Himalayan state of Sikkim only recently opened to tourism. It contains the world's third highest mountain peak, Khangchendzonga at 8,568 meters which is revered as Sikkim's protective deity. The state is renowned for its rhododendrons, diverse flowering plants, birds, and diverse wildlife. Threats to Sikkim's biodiversity in general include agricultural land conversion, road construction, and overcollection of NTFPs. At the specific project sites, major threats include fuelwood collection and overgrazing.

What's Being Done About It?

To counter these threats and to build on the opportunity to provide benefits from tourism, TMI and G.B. Pant Institute staff members are working with local stakeholders, including an association of trekking businesses (TAAS) and local communities, to increase community and private sector conservation, to increase economic returns from ecotourism services and enterprises, and to contribute to state policies that meet ecotourism and conservation goals. In particular, the project is focused on two sites around Khangchendzonga National Park (KNP): the trekking trail to Dzungri and Gocha-La, which starts in the town of Yuksam and the settlements around Khecheopalri Lake.

The project is designed to generate conservation incentives across the trekking tourism sector in Sikkim from small village enterprises, to city-based trek operators, to government departments and policy-makers. This project is particularly timely because the state government is trying to promote tourism through the development of policies that minimize the problems neighboring states and countries have experienced as a result of the rapid development of the tourism sector.



BCN STAFF

Contributions to State Policies That Meet Ecotourism and Conservation Goals

We have been working to build the capacity of local and state institutions, organizations, and groups to conduct activities that forge linkages between tourism development and conservation.

At the Second KNP Workshop, participants from government, private sector, and local communities agreed to establish a working group to review and recommend management policies for the park, which is Sikkim's largest protected area. An evaluation of the first KNP Action Plan revealed that key issues regarding the park still remain unresolved, especially the continued negative impacts of mountaineering training groups, trail management, and high-altitude fuelwood extraction.

Project partner GBPIHED continues to lead the state effort to rehabilitate the Rathong Chhu Hydro-electric project site (the project was officially canceled in August 1997) at the edge of KNP. The aim is to minimize further negative environmental impacts and to capitalize on opportunities to improve tourism management in the area, such as establishing new camping and grazing sites and nature trails to be managed by local people.

Project staff continued to provide technical assistance to the government in tourism development plans. As a result of project reviews, five tourism circuit plans were returned to consultants for major revisions that have now been made. The government also continues to consult closely with project staff in other tourism proposals such as resort development in South Sikkim.

Local community groups, especially KCC and KLHWC, have shown an increased capacity to conduct independent conservation activities at the sites such as implementing grazing bans, encouraging use of kerosene through stove hire, and self-supported monitoring activities such as mapping and reporting of poaching incidents.

Initial results from project monitoring and applied research have shown us that bird diversity, and thus bird-watching enjoyment, is highest in temperate mountain sites in disturbed areas. Current levels and types of human disturbance may therefore not be incompatible with maintenance of bird species richness and diversity that are typical of temperate forests.

CHALLENGES

A Short Time Frame

Building capacity, implementing a project, and showing tangible results in a short period is tough. Our project was designed to generate incentives to conserve at multiple operational scales. We needed to work with a range of stakeholders including the communities at the sites, the commercial private sector, and the government, all of whom play a key role in tourism revenue generation and use of natural resources in Sikkim. The approach acknowledged the role of the market, tried to generate incentives based on value-addition to existing tourism services and products, and attempted to address government actions that either encouraged private enterprise or retained control within the state apparatus. While the approach was logical, in practice it was a challenge to address these issues of scale in the course of a three-year project where no such initiative had ever been undertaken, and to measure and show an impact on biodiversity.

Building capacity, implementing a project, and showing tangible results in a short period is tough.

Although incentives to conserve may have already been present among stakeholders, expanding these to a wider set of participants was a big job. As a result of participation in project activities such as community-based planning, training, conservation education, and study tours, the concept of incentives to conserve through ecotourism is now more widely discussed and visible in decision-making. We hope to assess the extent to which incentives have been understood and used through a participatory exercise that reconstructs the project and the conceptual framework around which it was organized. The absence of prior data on biodiversity in this diverse area meant we had to develop methods and tools for data collection and analysis. However, project staff and collaborators have made great strides in establishing baseline data that will provide the foundation for assessing the impact of current and future activities.

Training in Enterprise and Financial Planning

In many cases, the project intervention was designed to add incremental value to existing products and thus intensive financial planning was not considered essential. Additionally, since the major implementing agencies (TMI and GBPIHED) had expertise in conservation and community development, these areas tended to receive more attention given that they were issues in which the organizations felt most equipped. However, the need for improved financial planning cannot be ignored and we hope to either address this in the next phase or to find an organization that can take on the task.



Short-Term Benefits but Long-Term Costs?

Habitat modification at current levels of human-induced disturbance may allow for better bird-watching, perhaps due to a combination of greater visibility and overlapping of niches as some species move up the altitudinal gradient. But disturbance (such as through livestock) also allows for weedy species to establish themselves. The ecological monitoring team needs to pay particular attention to such areas.



Working Together

The mixture of groups involved in this project — NGOs, a research institution, and a private sector trade association — was a challenge to manage. For all partners and collaborators, the project represented a new working arrangement that combined a variety of sectoral interests. While the partnership between TMI (the primary implementing agency) and GBPIHED (applied research, scientific monitoring, and policy application) was well understood, TAAS's simultaneous role as a collaborator and recipient of assistance was novel. Furthermore, TAAS members faced a challenge in that its members had to cooperate with each other to undertake the project even though they are normally competitors with one another. This competition between TAAS members increased over time in the face of relatively low numbers of high-paying visitors and the limited seasonality of operation at the project sites. An organizational response to conservation from the association was thus often difficult, since the need to generate profits was uppermost and levels of trust among members were low.

Nonetheless, some promising efforts have been undertaken by individual operators, such as publication of the TAAS Code of Conduct in promotional literature, complete conversion to fuelwood alternatives, and sending support staff for training provided by the project. In retrospect, a more clearly defined set of expectations and obligations, financial and otherwise, from all concerned would have been beneficial at the start of the project. However, this does not diminish the project's achievement in having established a precedent for collaboration among public, private and NGO actors.

Working in Rugged Mountain Environments

Due to ever rising numbers of landslides and deteriorating road conditions, project staff took considerable risks in maintaining regular field visits, especially in the monsoon seasons. These conditions continue to hamper communications, testing everyone's ability to manage complex logistical arrangements and maintain field support to our clients.

SUCCESSSES

It appears that the lasting achievements of the project will be in the development of community conservation organizations as described above. Other successes have come in developing community-based planning and organizational capacity, as well as policy-development processes that support positive linkages between conservation and enterprise development.

Development of an Effective Participatory Planning Process

Project staff are working with people in four communities using an innovative participatory planning and action methodology that focuses on community and environmental assets and incorporates participatory learning to develop the community's plans. Together we are implementing local ecotourism plans that include activities co-financed by community members. Under these

arrangements, local people have improved garbage management, carried out tree plantations in local settlements, prepared and distributed visitor education and promotional materials, and conducted trail repairs.

Although still in a development stage, this methodology, known as Appreciative Participatory Planning and Action (APPA) and developed across TMI's Himalaya projects, has already produced results at the community level. Furthermore, the approach has generated interest among other agencies and groups wishing to promote community-based tourism in other parts of India and South Asia. In 1999, APPA will be the foundation of an international course in "Community-Based Tourism for Conservation and Development" to be held in Nepal.

Increased Participatory Planning by Government

At the level of policy development, there have been significant changes that we hope will continue. Perhaps the most important is in the area of public participation in planning and review and more active dialogue between communities at the project sites and government.

As reported last year, the Government of Sikkim adopted the project model of participatory workshops to discuss major tourism development proposals, and participated in a project-sponsored gathering of stakeholders to discuss conservation and ecotourism management issues in and around KNP, the site of the major trekking route in Sikkim.

Following the project model of participatory meetings with wide-ranging representation, the Tourism Department held public meetings to discuss key proposals such as the Tourism Master Plan. We brought together communities, tour operators, and government to discuss management strategies for KNP. With wider representation and acknowledgment within government of the value of increased participation, we hope that policy-makers will continue to widen their parameters for decision-making to take full account of environmental and local economic benefit issues in tourism. We are, however, concerned that insufficient funds exist within public sector agencies to continue these meetings, but hope that a combination of organizations who have worked with the project will continue to facilitate them in the future. As a result of participation in the project, GBPIHED's unit in Sikkim is increasingly asked for advice on environmental planning for tourism and other development and conservation efforts, and has itself included a greater degree of participation in its research activities.

Introduction of Co-Financing for Training

From the start of the project, we insisted that there be co-financing, either as fees for training or as contributions towards project activities from participants. This was quite challenging at first since, in Sikkim, people have traditionally looked to the government for financial support often in a subsidized form. But asking them to pay for training, we believe, gave it greater value. In one



Dependency Discouraged

An important lesson from this project is that dependency was discouraged and as a result people saw value on the basis of what they were willing to pay for training.

Blazing Policy Trails

As KCC and KHLWC take one small step after another in responsible management of local resources, they will be blazing a trail that will enable them to negotiate with the government for greater control and management of resources.

case, the training was the reason given by a porter for not cutting down a tree at the request of tourists, which led the tourists to send a letter to the Government commending Sikkim on its support of ecotourism. Such anecdotal evidence reinforces course evaluations that indicate this training is successful in modifying behavior. Developing a participatory planning methodology for tourism has given participants long-term benefits in the form of skills. As KCC members have often commented, "We first thought that the project would give us soft loans to build hotels, but we ended up getting a lot more in the way of skills and ideas on how to manage tourism and conservation." We hope that both features of the project will contribute to the sustainability of responsible tourism through helping local organizations provide self-sustaining training programs, and building local capacities to plan and manage tourism and conservation efforts in Sikkim.

ON THE CONSERVATION FRONT

Conservation requires a range of interventions, and while the enterprise approach will be a key component of future programs in Sikkim, it will not necessarily be the only one.

The Importance of Resource Tenure

For entrepreneurs to undertake and continue conservation actions that support their livelihoods, it seems critical that they have some level of decision-making power over the resources in question. It appears that unless this is possible, economic benefits from an enterprise are unlikely to provide effective incentives to conserve.

In Sikkim, there was little decision-making power over natural resources among the range of entrepreneurs participating in the project, and thus it would seem little chance of economic incentives turning into actions to conserve biodiversity on which tourism depends.

However, for the project, the value of the enterprise-based approach to conservation in Sikkim, especially tourism, lies in introducing the concept as part of a long-term strategy to support conservation and one that implies greater participation by key stakeholders in natural resource management. In Sikkim, the natural resources have for the most part been managed by the state government with permits and rights for subsistence extraction given by state departments. Little exists in the way of community management of forests. By engaging stakeholders in a debate over the value of biodiversity in the state economy and the most efficient way in which it can be conserved, local stakeholders at the project sites are now participating in the ongoing discussions over how biodiversity conservation can be conducted. Increasingly, traditional decision-makers, such as government, are highlighting the important role that local institutions can play. This shift in approach is based, in large part, on the success of the project in supporting local organizations to take action in local

conservation efforts, and also as the result of project efforts to facilitate stakeholder dialogue where such issues have been debated.

Neutral Facilitation Helps Resolve Issues

The experience in Sikkim suggests that agencies and organizations perceived to be neutral are most successful in promoting and engaging stakeholders in an open debate over who manages natural resources. If these are not present, then it seems that the dialogue is not always productive. In the case of Sikkim, the most important feature of the enterprise-based approach was to provide a framework in which to analyze and develop the potential of tourism for more than one type of stakeholder. Furthermore, it provided a means to argue that long-term benefits from tourism would only be possible if those whose income depended on the activity had greater decision-making power in natural resource management.

LOOKING TO THE FUTURE

Our current plans focus around distilling the lessons learned from the project, and identifying the most cost-effective ways for partners to continue working and having an impact in sustainable tourism development in the Himalayas. Training in community-based tourism and promoting enabling policy frameworks form key features of future plans for The Mountain Institute in the Himalayan region, as does conducting sub-sectoral reviews as the basis for tourism and related business planning. The demand for training and technical assistance in tourism planning in India appears high, and there seem to be opportunities for TMI and GBPIHED to continue their collaborative efforts in tourism development and conservation in other parts of the country. KCC has already received requests to provide assistance to community-based tourism efforts in nearby Kalimpong and further away in the Western Ghats. Future plans also include applying the enterprise-linked approach, along with institutional capacity-building and improved business planning to enhancing the conservation value of cardamom-agroforestry systems in the Eastern Himalaya.

Story: Nandita Jain and Renzino Lepcha. Nandita is Program Manager within The Mountain Institute and Project Manager for Sikkim Biodiversity and Ecotourism (SBE). She was part of the team that helped design the project in 1995 and stayed on to manage the collaborative effort. Renzino is a Project Officer within The Mountain Institute and SBE. He participated in the design of the project as a tour operator managing one of Sikkim's largest agencies, and then joined SBE to supervise field implementation.



A New, Adaptive Model

Responsible ecotourism is still new to India. The Sikkim project with its emphasis on local capacity-building, generating local benefits, monitoring the ecological impact of tourism-related activities, and lobbying for policy reform has developed a model that can be adapted at other sites. Such approaches can generate a stream of benefits for local communities, while strengthening the conservation ethos.

BCN Commentary: Ganesan Balachander, Director, Manila.

Prescriptions for CONSERVATION



Tribal people are setting up herbal medicine and forest product harvesting enterprises to heal a bureaucratic forest management system — while the short-term prognosis is good, it is not clear whether the cure will work.



What's Happened Over the Past Year?

Nowhere else is the human domination of landscapes as apparent as in India. Even most of our protected areas have a sizeable human presence with local populations often relying heavily on the products produced by the surrounding ecosystems. This dependence and the traditional knowledge the people have about their environment can greatly contribute to conservation. Indeed, the role of local populations in conservation efforts has been recognized by the proponents of Joint Forest Management (JFM). Although the role of JFM in conservation has not been yet explored in protected areas, many areas with substantial human activity seem appropriate for such management regimes.

The principle of JFM is based on provision of economic incentives for conservation of biological resources. This principle should be applicable where biological resources are extracted by local communities. In such situations, increased economic returns in combination with the tradition of local dependence on ecosystem goods and services can enhance the prospects of success in JFM to protect and conserve natural resources.



BILIGIRI RANGAN
TEMPLE SANCTUARY,
KARNATAKA, INDIA



PARTNERS:

- .. UNIVERSITY OF MASSACHUSETTS AT BOSTON (UMB)
- .. TATA ENERGY RESEARCH INSTITUTE (TERI)
- .. VIVEKANANDA GIRIJANA KALYANA KENDRA, (VGKK)
- .. ASHOKA TRUST FOR RESEARCH IN ECOLOGY AND THE ENVIRONMENT (ATREE)
- .. SOLIGA ABHIVIRUDHI SANGHAS



The economic stake of local communities in conservation of natural resources can be further enhanced by value addition. Indeed, enterprise-based approaches to conservation are becoming common. Such an approach began to be used in the Biligiri Ranganswamy Temple (BRT) Wildlife Sanctuary, approximately five years ago where we began working with the Soligas, the indigenous people of the area.

SUCCESSSES

Three Value-Adding Enterprises Established

Over the life of the BCN-funded project, we have been able to establish three different enterprises.

Honey Processing Unit: Honey is currently collected largely from wild rock bees (*Apis dorsata*). The work on the unit began in 1995, with procurement of the equipment. The unit started to function in the beginning of 1996, the second year of the project. It has the capacity to process 30 tons of honey per year. In 1996, the unit processed 8 tons of honey; in 1997, it processed approximately 15 tons and generated a net profit of approximately Rs 200,000 (U.S. \$5,447). In 1998, the net profit was Rs 340,000 (U.S. \$8,397).

Food Processing Unit: The food processing plant, located in BR Hills, is intended to process pickles, jam, honey, and other food products. *Phyllanthus emblica* (amla or nelli) is the principal species used. Its fruits are processed into jams and pickles.

Herbal Medicine Processing Unit (HMPU): The Herbal Medicine Processing Unit is located about 24 km from BR Hills. The unit was originally conceived and started by VGKK with funding from the Foundation for the Revitalization of Local Health Traditions. Later, the BCN-funded project also provided support and inputs on major issues such as management, linkage to conservation of biodiversity, and distribution of profits. The unit processes amla and produces a wide range of ayurvedic drugs, but ineffective management has resulted in heavy losses. However, there are signs of a turnaround and the unit is expected to generate a profit in 1999.

The honey and food processing units taken together have provided a source of income through direct employment to Soliga workers since 1996. Annual earnings are more than Rs 100,000 (U.S. \$2,691) from these two and Rs 30,000 (U.S. \$807) from the herbal medicine unit. Skill improvement has been significant on the production side. The production activities in the honey and food processing units are entirely Soliga-managed. The Herbal Medicine Processing Unit has been less successful in providing Soliga employment because the unit is located outside the sanctuary.



The production activities in the honey and food processing units are entirely Soliga-managed.

Ever-Improving Management

Overall, the enterprise operations are succeeding. Soligas are managing the businesses and generating profits. The Managing Committee, consisting mainly of Soligas, decided the manner in which the profits ought to be distributed. In 1998 the Honey Processing Unit showed a profit of Rs 340,000 (U.S. \$8,397), out of which Rs 100,000 (U.S. \$2,470) was distributed to the community members including collectors.

In 1998 the Honey Processing Unit showed a profit of Rs 340,000 (U.S. \$8,397), out of which Rs 100,000 (U.S. \$2,470) was distributed to the community members including collectors.

Reinvesting Resources

The distribution of profits, although relatively small on a per capita basis, may drive home the message of the link between an enterprise, that depends on the continued availability of nectar sources and healthy colonies of honeybees, and economic benefits to the Soligas. The fact that more than two-thirds of the net income was plowed back into the operations of the enterprise shows the maturity and understanding of the Soliga people as they link up with the market.

PROJECT OVERVIEW

What's at Stake?

The Biligiri Rangan (BR) hills in the Western Ghats are one of the most biologically diverse areas in South Asia. They are home to elephants, gaurs, sambars, wild pigs, sloth bears, barking deer, and over 900 families of flowering plants. In 1974, this richness led to the area being declared a Wildlife Sanctuary.

The Soliga tribes have inhabited the BR Hills region in South India for millennia. Approximately 4,500 Soligas live in 25 podus (settlements) scattered throughout and on the fringes of the sanctuary. Traditionally they engaged in shifting agriculture and hunting, and collected a wide range of non-timber forest products (NTFPs), first for their subsistence needs, but later for forest contractors as well. When the area was designated as a wildlife sanctuary, shifting agriculture and hunting were completely banned. The Soligas were allocated small pieces of land, typically 0.6 ha, where they could practice settled agriculture. However, the extraction of NTFPs continued under the aegis of tribal cooperatives, or Large-scale Adivasi (tribal) Multi-purpose Societies (LAMPS). Today, extraction of non-timber forest products is the major source of income for the Soligas. Unfortunately, as is the case in most of India, the sanctuary is threatened by human pressures including, in particular, overharvesting of forest products by both the Soligas and outsiders as well as invasive species, fire, and external pressures on the sanctuary.

What's Being Done About It?

In 1994, Tata Energy Research Institute (TERI) in Bangalore, India, a non-governmental organization with expertise in energy and forestry policy, and Vivekananda Girijana Kalyana Kendra (VGKK), a non-governmental community organization devoted to the social, economic, and health welfare of Soligas, created a project with the assistance of the University of Massachusetts at Boston. In 1998, the Ashoka Trust for Research in Ecology and the Environment (ATREE) joined as a partner. The project was designed to create NTFP-based enterprises to be operated by the local Soligas people. These enterprises process some of the NTFPs collected through the LAMPS and sell the processed items in the market to generate profits for the local community by capturing the highest possible fraction of the final consumer prices. In addition, the project is developing extensive biological and social monitoring programs and undertaking policy reforms.



Combining “Scientific” and “Participatory” Monitoring

During the first two years of the project, the emphasis was on rigorous scientific monitoring methods and employing trained scientists, with little involvement of the Soligas. However, from the third year on, the project team tried to involve the Soligas in various aspects of resource monitoring. They provided training to the honey hunters to improve their harvesting practices while they employed participatory methods of resource monitoring to estimate the condition of the resource base. The project found that combining these two approaches can be much more effective than using either one on its own.

The management of the herbal medicine business, which until 1998 had not generated profits, had a fundamental turnaround in November 1998, and the plant started to produce profits. Improvements in production, marketing, and management contributed to the financial viability of the plant. Concurrently, the Herbal Medicine Processing Unit launched its own line of products that are being sold through a general agent in Bangalore.

Participatory Resource Monitoring

The second major achievement has been the implementation of a sound biological monitoring program that has been designed to look at issues of long-term sustainability in resource extraction. This monitoring program has included both scientific and participatory components.

Our scientific monitoring has involved the following:

- Preparation of vegetation maps of the whole area;
- Determination of relative abundance of woody species;
- Preparation of distribution maps of major NTFP species;
- Studies on regeneration of NTFPs;
- Assessment of impact of fire and weeds on population dynamics of tree species;
- Work on phenology, pollination, seed dispersal, and productivity of various species;
- Development of a long-term program to monitor biodiversity at all levels of organization from genes to populations to ecosystems; and
- Integration of all spatial data into a geographical information system.

Apart from the scientific monitoring, we made considerable progress in participatory resource monitoring, which was designed to estimate production, extraction, and regeneration levels of NTFPs and was incorporated into the operations of the enterprises. Harvesters are now directly involved in monitoring these parameters. At the enterprise level, field assistants are trained to estimate and document production, extraction, and regeneration. Similarly, harvesters have been exposed to basic protocols of monitoring. Simple manuals to monitor production, extraction, and regeneration have been prepared for both the enterprise-level workers and the community members.

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Socioeconomic Monitoring and Empowerment

We have used socioeconomic monitoring at a variety of levels for various purposes. We have determined the degree to which Soligas rely on the harvest of non-timber forest products and other vocations to sustain their livelihoods. The



prices obtained by Soligas from the LAMPS and enterprises are being monitored. The flow of profits and income from enterprises as well as LAMPS is being followed. Socioeconomic activities include empowering the community to realize social and economic benefits from various government and non-government activities aimed at the welfare of Soligas, creating awareness of both the enterprises and the conservation and management issues among Soligas, and involving Soligas in operating and managing enterprises. A separate organization has been formed by the Soligas to operate the enterprises and conduct the associated socioeconomic and resource monitoring work. Feedback on enterprises and monitoring constitutes an integral part of the socioeconomic component of the project.

Progress Towards Policy Changes

We have engaged the Karnataka Forest Department (KFD) in serious discussions regarding policy changes related to extraction and management of NTFPs. A meeting on ecology, natural history, and conservation in BRT sanctuary was jointly sponsored by ATREE, VGKK, and KFD in September 1998. We discussed recent work in the sanctuary and an important outcome of the meeting was a set of recommendations that included the commitment on the part of KFD to review the lease fee charged to the LAMPS for collection of NTFPs and the functioning of the LAMPS. KFD also agreed to explore the possibility of participatory resource management with Soligas in the Sanctuary.

We have engaged the Karnataka Forest Department in serious discussions regarding policy changes related to extraction and management of NTFPs.

CHALLENGES

Obstacles to Overcome

A number of challenges remain in meeting the goals of conservation and management of NTFPs. These include the long-term viability of the Herbal

Building Credibility

The basis for the Forest Department agreeing to review the management practices for the BR Hills lies very much in the project activities and the emphasis on systematic data collection and analysis. The scientific monitoring provides the project with credible data it can present to the government in support of policy recommendations.





Is the Cure Worse Than the Disease?

It is easy to look at the current problems with NTFP overharvesting in the sanctuary and point fingers at the Forest Department's management of the situation. And clearly the often bureaucratic LAMPS seem like they need some reform. However, it is important to remember that this forest probably would not exist today were it not for the past efforts of the Forest Department. And the LAMPS program has provided at least some income to the Soligas people. The project team is proposing that the Soligas be given the opportunity to manage the forest resources. It seems like this idea is working, at least in the short term. But there are not yet any guarantees that the Soligas will be able to maintain sustainable levels of harvests over the long term. If it does not work out, it may turn out that the cure is worse than the disease.

Medicine Processing Unit, enhanced efficiency of enterprises, initiation of additional enterprises, and the commitment and ability of the enterprises to continue monitoring. The biodiversity of the sanctuary is being threatened by product overharvesting, invasive species, fire, and external pressures. Comprehensive management plans have to be formulated and executed to meet these multiple challenges. Progress in reform of LAMPS has also been limited; this is an issue that needs to be dealt with at the state level.

Progress in reform of LAMPS has also been limited, this is an issue that needs to be dealt with at the state level.

Defining Sustainable Harvesting

We have not been yet able to ascertain sustainable levels of harvest since only long term monitoring of resources will yield relevant information. Furthermore, the key assumption that the Soligas will moderate levels of harvest in exchange for better economic returns through value addition remains to be validated, especially if the extraction levels are found to be unsustainable.

ON THE CONSERVATION FRONT

It is difficult to say if the enterprise-based approach to conservation has worked. Four years is too short a period to initiate, implement, and evaluate such a project. Further progress of the project will depend upon the extent to which enterprise operations remain transparent, the benefits flow equitably, and the participatory monitoring is conducted faithfully. Enhancement of rural incomes through other means will also play an important role in determining the reliance of the Soligas on NTFPs.

It is difficult to say if the enterprise-based approach to conservation has worked. Four years is too short a period to initiate, implement, and evaluate such a project.

LOOKING TO THE FUTURE

We need long-term studies to ascertain sustainable levels of collection of non-timber forest products. Sustainability is defined here in a strict ecological sense as the level of harvest that is below the replacement level. In a broad sense, sustainability will also require strengthening of institutional mechanisms for monitoring and a strategy to decrease levels of extraction of non-timber forest products through economic gains from other activities including value addition of a wide range of products and services. In any case, it is most critical that this long-term biological monitoring and the participatory resource monitoring, both the first of their kinds anywhere in India, continue.

It is most critical that this long-term biological monitoring and the participatory resource monitoring, both the first of their kinds anywhere in India, continue.

Apart from extraction, the regeneration of non-timber forest products is impacted by at least two other factors; exotic species and fire. During a series of meetings we held in many podus in July 1998 to obtain the community perspective on ecological, economic, and management issues, the Soligas identified the recent spread of two exotic invasive weed species, *Lantana camara* and *Eupatorium sp.*, as major threats to biodiversity as well as to their livelihood dependent upon the harvest of non-timber forest products. These invasive weeds, according to the Soligas, interfere with regeneration of forest species. Uncontrolled fires, the Soligas maintain, promote the growth of weeds and keep the populations of pest and pathogens high, and result in the decline in the yield of non-timber forest products. Although the use of fire and proliferation of invasive species is widespread in Indian forests, surprisingly there are no studies that seek to document the effect of fire and weeds on regeneration of NTFPs.

Setting the Stage for Participatory Resource Management

With the initiation of participatory resource monitoring, strengthening of community organizations, and improved functioning of LAMPS, the stage is set for participatory resource management in Biligiri Ranganswamy Temple Wildlife Sanctuary. The idea was floated at a meeting jointly organized by the Karnataka Forest Department, VGKK, and ATREE in Bangalore on September 17 and 18, 1998. The meeting was organized to highlight the work done in the BRT Sanctuary and to develop plans for the future in the presence of various stakeholders. The idea of participatory resource management was accepted in principle by the Karnataka Forest Department and now is the most opportune time to develop and implement a plan that can be applied in other parts of the country as well.

Both ATREE and VGKK intend to explore the possibility of participatory resource management to consolidate the progress in enterprise-based approaches to conservation. Both organizations remain committed to the welfare of the Soligas and their participation in management of resources. The long-term monitoring of biological diversity will also continue.

Ingredients for Success

What we have learned from this project is that the success of such projects depends upon mutual respect for the agendas of participating institutions, genuine empowerment of local communities, skills at the local level, and state and local support for reform in policies. Above all, there must be a long-term commitment to the goals of the project.

Story: Kamal Bawa, Professor of Biology, University of Massachusetts, Boston. He has been involved in conservation research for over three decades.



Competing With the Big Boys

The BR Hills NTFP enterprises have to be not only financially viable, but also ecologically sustainable. While a market niche exists for “green” products and can be profitably serviced, it may make sense in the future to try to expand to more mainstream markets. To this end, it is extremely important to pay adequate attention to management systems. From raw material sourcing to production, packaging, and marketing, these nascent enterprises may ultimately have to compete with the big boys if they are to succeed.

Looking Forward by Looking Back

The problems that may have appeared daunting when the project was initiated more than four years ago seems less terrifying today. Even though the problems of economic deprivation of the Soligas and poor regeneration of many of the commercially harvested NTFP species, to cite a few, have not gone away, there is a new sense of purpose. The experience gained from dealing with the nuts and bolts of the various issues that have confronted the project and its partners has raised the confidence level a great deal. The renewed commitment of VGKK and ATREE to work with the Soligas augurs well for the future.

BCN Commentary: Ganesan Balachander, Director, Manila, and Nick Salafsky, Senior Program Officer, Washington, D.C.



Gibbons in the MIST

GINP TEAM

A consortium seeks to set up a community-based ecotourism program and finds itself struggling through the fog of inter-institutional relations.



What's Happened Over the Past Year?

We have tried to increase revenues by varying the ecotourism packages. For example, we offer tailor-made business retreats combined with ecotourism trips that take in the neighboring tourist attractions. And for their part, the Park authority (PHPA) has developed a 120m canopy walk at the Eastern GHNP site. During the week, the guesthouses have almost zero occupancy so we are targeting foreign tourists through participation in travel marts and exhibitions in Jakarta. Compared to the same period of last year, we have had an increase of 28% in terms of visitor arrivals and 96% in revenues. However, more visitors could have come to GHNP if there were no economic recession attacking Indonesia. Forest fires, dengue fever and political instability have contributed to the forming of Indonesia's negative tourism image.

Boosting marketing activities as the panacea to these negative circumstances was handicapped by the Consortium's internal management problems between May and August 1998. Nonetheless, compared to the majority of other tourist resorts within Indonesia that suffered the same fate, the GHNP ecotourism businesses still manage to attract visitors. As we said last year, these lodges provide people who live in the high-stress environment of Jakarta an opportunity to get away and relax near a beautiful rainforest. The park is the ideal weekend getaway for some green therapy. While the somewhat difficult and slippery walk-in access will deter some visitors, for others, it's all part of the fun and a chance to get a little exercise before relaxing. The ongoing potential to build an even stronger weekend visitorship of Indonesians and expatriates living in Jakarta is good.



**GUNUNG HALIMUN
NATIONAL PARK,
WEST JAVA,
INDONESIA**



PARTNERS:

- .. BIOLOGICAL SCIENCE CLUB (BSCC)
- .. GUNUNG HALIMUN NATIONAL PARK, DEPARTMENT OF FORESTRY (PHPA)
- .. WILDLIFE PRESERVATION TRUST INTERNATIONAL (WPTI)
- .. CENTER FOR BIODIVERSITY AND CONSERVATION STUDIES, UNIVERSITY OF INDONESIA
- .. McDONALD'S INDONESIA FAMILY RESTAURANTS





Changing Policy Locally and Then Nationally

The project has resulted in important, though “unofficial,” policy successes at the local government level. The Consortium worked with local authorities — including mayors, the governor of West Java, park rangers and officials — to draft written agreements allowing community members to own and operate a guesthouse just outside park boundaries (the Southern site) and, more importantly, within Park boundaries (the Northern and Eastern sites). Initially, these unprecedented agreements were led by the Consortium, but by late 1998, each of the communities had established village-level enterprise management groups that could work directly with park officials. For example, at the Eastern site, the local group is drafting a written agreement directly between it and the park’s governing authority (PHPA) regarding conditions for ownership, management, and operation of the guesthouse, and joint responsibility for managing forest resources around the guesthouse area. As the story demonstrates, these local policy successes can often lead to policy changes at higher levels.



BERND CORDIS

The park is the ideal weekend getaway for some green therapy.

In the period March 1997 through August 1998 we successfully attracted 1,333 ecotourists generating revenues of Rp 70,523,135 (about U.S. \$16,830). From these revenues, enterprise members (76 in total) received an average of Rp 18,500 per person per month. This figure only represents 14% of their average household income and clearly is not yet beneficial enough. Still, it is significant in securing the enterprise members’ participation in project development.

Influencing National and Local Policies

Ecotourism in Indonesia is generally conducted through small-scale businesses. Hence, there are hardly any policies at the national level. The government is still very concerned about creating policies that favor conventional or mass tourism rather than small-scale ecotourism. The formation of the Indonesia Ecotourism Society (IES) — of which our Consortium is a founding member — was meant to integrate efforts to influence the Government (in particular the Ministry of Tourism and the Ministry of Forestry) to create policies favoring ecotourism. One of the important achievements of the IES is the Government’s decision to simplify the permit procedures for developing ecotourism businesses. In addition, IES worked with us to organize an ecotourism campaign at the Southern GHNP site in collaboration with the Ministry of Tourism.

One of the important achievements of the IES is the Government’s decision to simplify the permit procedures for developing ecotourism businesses.

In terms of local policies, the Ministry of Forestry's decision to only allow community-based ecotourism development within the GHNP region is due to our efforts. Although this may not be an extraordinary policy, it can help protect GHNP from other large-scale, tourism-vested interests, especially because of the Park's proximity to Jakarta, the center of Indonesian tourism and the country's economy.

Increasing Sense of Community Ownership

The Consortium and the local community are committed to the idea that all the project's activities are for the sake of the communities within GHNP and the surrounding forests. As the project progressed and the ecotourism enterprises created benefits, the sense of belonging of the majority of the enterprise members grew — especially since the enterprise, even during the present economic difficulties, still manages to enhance people's household incomes. Better relationships have been built with the local community at all three sites within GHNP, including those who do not actually belong to the enterprises. Special attention has to be given to the community in the Southern site because they have a lesser sense of belonging due to the underlying conflict between the Kasepuhan and the non-Kasepuhan communities.



PROJECT OVERVIEW

What's at Stake?

The emerald forests of Gunung Halimun National Park (GHNP) are one of the last stretches of lowland and montane forests on the densely populated island of Java. Established as a National Park just six years ago, GHNP is home to a variety of mammal species, including the endemic Javan gibbon and grizzled langur. The Park supports over 200 bird species, 500 plant species, and a spectacular diversity of butterflies. For visitors, the Park is a wonderful respite from the pollution and fast pace of Jakarta.

But park status does not necessarily mean protection. The indigenous Kasepuhan and Sundanese communities who live in and around the park depend heavily on its resources. Terraces of verdant rice paddies scale the mountains and developments, including an expanding tea plantation, nibble away at the park's natural environment. Unsustainable fuelwood collection and harvesting of non-timber forest products gradually erode the forests while prospectors comb the rivers and hills in search of gold. The challenge is to find a way that these communities and outside interests can survive in balance with nature, safeguarding the watershed that is of major importance to nearby urban centers, and to protecting what is left of Java's biodiversity.

What's Being Done About It?

The Gunung Halimun Consortium was formed with the Biological Science Club and the Center for Biodiversity and Conservation Studies as its lead organizations. The lead organizations and other participating groups provide oversight to a Consortium staff based in Bogor. The Consortium is working with local communities at three sites within the park (Northern, Eastern, and Southern) to help the communities develop alternative forms of income. The project is developing an ecotourism enterprise and conservation awareness program geared to attracting domestic and international visitors from Jakarta, located just a few hours away by car. The project also works with the Directorate General of Forest Protection and Nature Conservation (PHPA) on allowable access and use of resources in the protected area.



Competing Interests in the Community

Just before the southern entrance to GHNP lies Ciptarasa, a village comprised of Kasepuhan, a distinct ethnic group that manages to maintain many of its customs, as well as its social structure and the right to live within park boundaries. The Kasepuhan are Muslim, but their faith is mixed with a heavy dose of traditional beliefs.

By contrast, about a 40-minute walk from Ciptarasa, there is a village called Panggunyangan, which includes no Kasepuhan and adheres much more strictly to the Islamic faith. The Consortium has tried to create a balance between the two communities by coming to agreement with community leaders that the guesthouse would be built on the land of Abah Anom (the Kasepuhan's quite progressive "king"), but it would be managed by someone from Panggunyangan. Also, the guesthouse is located outside GHNP boundaries between Ciptarasa and Panggunyangan.

Unfortunately, Panggunyangan's religious leaders are now opposed to the guesthouse. They claim that the guest house brings in people of different religions who are not only there to see the park or be a tourist, but also to proselytize. Another concern is that the guesthouse, which is often empty of tourists, might be used as a magnet for other, less desirable activities by local village members. This discontent may be exacerbated by the fact that, of the three project sites and guesthouses, this one is visited the least and, therefore, does not create much financial benefit for local community members. Further, Panggunyangan villagers feel those small gains go primarily to the Kasepuhan.

Regardless of their validity, these perceptions persist, which makes them legitimate concerns. In early 1997, the guesthouse manager quit as a result of

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What Monitoring Has Revealed

To date, all the monitoring activities are still conducted by the monitoring team with little involvement from the communities. From the monitoring, we have learned that the project has had a low impact on the biological features of the park. In terms of the socioeconomic impacts, within the communities, jealousy and greed appeared at a modest rate but do not seem to be jeopardizing the project nor creating social tension among the communities.

Under these circumstances, there is a possibility that the project's ecotourism scale could, in a controlled way, be increased giving the communities a better income and opening the possibilities to encourage more participation. However, exhaustive research on carrying capacities would have to be conducted before the decision to enlarge the enterprises' ecotourism scale could be made.

From the monitoring, we have learned that the project has had a low impact on the biological features of the park.





The Limits to Growth

Near GHNP is the much smaller Gunung Gede-Pangrango National Park (GGPNP). GGPNP is more accessible, has been a protected area longer and has about 60,000 visitors a year, whereas GHNP has a small fraction of that. While GGPNP collects park fees, that revenue is not enough to manage the trash and degradation suffered as a result of high visitation. Many complain that GGPNP has exceeded its "carrying capacity" and that higher fees should be levied or numbers of visitors restricted in a given weekend.

To ensure that GHNP did not suffer the same negative effects, the Consortium began to implement a monitoring program. Staff measured water quality at key camping sites, the number of sightings of "key indicator species" (the numbers of tourists on the trails), and the width of the trails over time.

Despite the limitations of this monitoring program, project staff feel they can safely say that the current carrying capacity of most of the trails winding through the park is no more than five to seven people per day. This carrying capacity should increase with the increase in mapped trails and in management and enforcement of trail rules. Nonetheless, project staff are concerned about growing too fast — they feel that at this point, having 20-30 people per day may not be sustainable.

The project team is working hard through marketing and better infrastructure to grow the enterprise. For example, to accommodate very large weekend groups, the project wants to expand the Eastern site guesthouse by 10 rooms. Ideally, the monitoring program will still be in place to help inform the enterprise managers about when capacity is "maxing out." The enterprise managers will then adjust so that the product (a positive ecotourism experience) does not become eroded because too many tourists have driven wildlife deep into the forest, or harmed river water quality with too much non-biodegradable bathing products.

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pressure from his fellow Panggunyangan religious leaders and community members. And after just a few months, the man who replaced him was considering quitting as well. This creates difficulties for enterprise development because the turnover and uncertainty means there is a constant need to train and build business skills and engender community trust. The project field staff have worked on this problem, but as of late 1998, rumors, misinformation, misperceptions, and low tourist visit rates still exist, though the Kasepuhan and most Panggunyangan residents remain steadfast in their support of the guesthouse and the potential gains it can bring, financially and culturally.

Does Monitoring Require Experts?

There is a general feeling amongst the conservation and scientific communities that people living in villages have limited education and cannot be seriously considered as active participants in monitoring environmental or social impacts. This perception is partly responsible for the fact that community members were given little opportunity by the Consortium to take part in monitoring work. Instead, the project hired contractors and university students who conducted periodic surveys where the communities and resources onsite were more subject than participant. This attitude was extended to the Consortium's own field staff who are living on site and know the community members and their resource use patterns best. Even they were, until mid-1998, excluded from most monitoring activities on the assumption that they had no formal training and therefore could not add value. By late 1998, this perception was changing a bit and some good socioeconomic data began to come in from the field staff.



The Challenge of a Consortium

The Consortium experienced complex internal management problems. The impact on the project is noticeable: monitoring programs were delayed, trails were mostly mapped but not marked, business management training in the villages was curtailed, and guides weren't trained. These problems are common to projects where collaboration and agreement among organizations (often approaching conservation from different angles) is needed to succeed. Unfortunately, in the Consortium's case, the problems were a bit more intense than usual and affected work in the field. It is important to note that, in spite of these difficulties, the project did succeed on several fronts. It is thus critical that the project continues to work in GHNP and that its management structure evolves with changing conditions.

CHALLENGES

It's Hard to Please Everyone

One of the obstacles in the GHNP enterprise is the management of our Consortium — how to harmoniously integrate the project's objectives and activities to everyone's satisfaction. Since the beginning, disharmony was mainly triggered by the Consortium members' different ways of seeing the project's success. This is influenced by their diverse backgrounds of knowledge and experience.

One of the obstacles in the GHNP enterprise is the management of our Consortium.

Discussions among the project implementers and the Consortium's Board were not frequent enough, so that communication among the team members was often a problem. The insights of the staff implementing the project, insights based on the field work's progresses and problems, were not always taken into consideration by the policy-makers (i.e., the Board members). For future projects involving a Consortium, this type of problem should be anticipated beforehand, so project staff can try to minimize the negative effects.

The Economic Squeeze

Increasing illegal mining activities, a direct impact of Indonesia's economic difficulties, are yet another obstacle. Although the mining exploration area is located outside the ecotourism project area, it may negatively impact the GHNP ecotourism and conservation activities on the whole and could threaten the long-term sustainability of the project. The park authorities have been trying to reduce these illegal mining activities though they are frequently handicapped by the "invisible hands" which involve the military. (It is generally believed, but not proveable, that the military, which uses GHNP as a training ground, sanctions and benefits from this illegal mining.)

SUCCESSSES

For the local communities involved, the projects have created substantial benefits in terms of cash, education, and social benefits to their villages. The project has generated Rp 18,500 (U.S. \$4) monthly for the enterprise members.

For the Park authorities, the project produced good public relations. Television, newspapers and travel writers from Jakarta and abroad have frequently covered GHNP. Besides revenues earned from the entrance fee from visitors, other benefits are the staff's and the Park ranger's increasing knowledge about ecotourism.



To the Consortium members themselves this project has not only expanded their knowledge and experience in developing ecotourism but is also a credit to their respective institutions, especially to McDonald's Indonesia (which has used its participation in the Consortium as a selling point). The project's nomination to win the British Airways Tourism for Tomorrow Award 1998 is one example of how other parties appreciate the project's achievements.

However, the most important achievement that the project can claim as contributing to conservation might be public awareness. Increased public awareness can be identified through the increasing demand to visit GHNP, even during the difficult economic recession. Other forms of public awareness can be detected through the growing numbers of invitations to join seminars or conferences or requests to give lectures, coming from different parts of Indonesia and even from abroad. Included in this category are the comparative studies of the GHNP ecotourism project made by other NGOs, as well as voluntary work requests from abroad.

However, the most important achievement that the project can claim as contributing to conservation might be public awareness.

Some of the Things We Did Right

1. Starting small and then growing bigger is far more effective than immediately trying to go large-scale — which may collapse and fade. During the first stage of development, the number of enterprise participants has to be controlled so the enterprise can provide them with significant benefits. In other words, before starting to recruit more people make sure the first participants are receiving sufficient benefits. To achieve this objective, the enterprises' activities had to be focused on only developing ecotourism as the core business. Other supporting businesses that may become the enterprises' economic value-added are surely needed, but don't try to establish them at the same time, unless you are sure you can manage them properly.
2. We decided to immediately begin marketing ecotourism when construction of the guesthouses began. Familiarization trips were organized for those considered "guest senders" such as travel agencies and travel writers. When the guesthouses were ready, television companies and travel agencies in larger numbers were invited for the sake of building familiarity with GHNP's ecotourism products. These activities were later followed by organizing presentations to private companies, embassies, and clubs in the Jakarta area since we think these people are our domestic target market. We hoped to attract guests and at the same time tried to educate them regarding conservation as well, giving do's and don'ts they should observe when they visit GHNP. During the off season, a number of paid guests, in particular those who have the prospect of sending other guests, were sent to GHNP in order to keep the local communities' enthusiasm as a "service provider." These were

Gold Mining and the Economic Crisis

Between 1995 and 1998, the Consortium reported a steady decline in small-scale mining by local villagers, as well as in larger-scale operations by outside interests. Enforcement was on the increase, and incidences of illegal mining declined. But now, due to the Indonesian economic crisis, the situation has reversed. Gold mining, particularly in the northwestern part of the park, is on the rise by both local inhabitants and outside companies, as they try to increase and diversify their income. At the same time, enforcement has fallen as park officials lose staff and funding. While this project did not expect to have a direct impact on the mining threat, it did hope to be successful enough to expand the ecotourism operation to the western part of the park and begin supplanting mining income with tourism income. Unfortunately, this now seems a long way off.



perhaps some of the reasons why the GHNP ecotourism successfully attracted visitors within a short time.

ON THE CONSERVATION FRONT

Making Headway, but...

Basically, BCN's enterprise-based approach to conservation is a method of reconciling economic development, cultural tradition, and biodiversity conservation within a project. Using the Consortium as the "implementing agency," one can see that this approach is working in GHNP. Though not yet fully self-sustaining, the enterprises have generated benefits. The link to biodiversity, meanwhile, is clear (utilizing as well as conserving it), and the project involves local stakeholders.

The Consortium has successfully attracted visitors to the park. Through visitor spending, benefits have been generated and distributed to the local community. This has become a trigger in raising better community participation and has made the staffs' job of communicating the project's programs easier. Hence, we believe that benefit generation is a focal point in



BRAND COURTESY

determining whether or not an enterprise-based approach can work in a community-based conservation project, in particular in a project that is developed in design mode (planning and implementation of the project are orchestrated from the outside).

We believe that benefit generation is a focal point in determining whether or not an enterprise-based approach can work in a community-based conservation project.

In view of the lessons learned, we agree that during the initial year of implementation, efforts should first be directed at creating activities that can generate speedy benefits as the "tools" to encourage community participation. Meanwhile, activities related to capacity building, though also important, should be handled at a moderate "speed."

...We're Running Out of Time

Since success means that the enterprises should be proven sustainable both biologically and economically, the three-year time frame of project development seems inadequate. We assumed that at least a two-year extension is needed before the three enterprises are able to become self sufficient and sustainable.

With regards to the locals' ability to meet conservation challenges, we will probably have to wait for several more years. They might already understand the danger of the threats to their environment as well as to their cultural life. However, to meet the conservation challenges, outside technical assistance is still strongly needed. The communities have to be well trained to monitor their ecosystem themselves. They must have sufficient knowledge about their rights to control the direction of any economic development within their region, and possess understanding about government's policies. In addition, they really have to be fully empowered to be able to protect their neighborhood and to meet conservation challenges.

To meet the conservation challenges, outside technical assistance is still strongly needed.

To date, the communities' abilities are limited to organizing trips within GHNP with almost no access to marketing. In terms of conservation tasks, their knowledge is still very low, and as a local organization that has to protect and conserve the neighboring forest they are not yet solid. These circumstances are mostly influenced by their education level. To a certain degree, it was also affected by the "rule" of community participation: Let them do the jobs as a side activity without having to change their initial profession.



Time Keeps on Ticking

As in many other projects the three-year time frame is seen as a major limiting factor.



Darkest Before the Dawn?

Since this story was written, in October 1998, the project has suffered serious setbacks as a result of ongoing conflicts among Consortium members. Unfortunately, this has had a dire impact on the enterprises. As one recent visitor wrote to BCN:

“I went to the Eastern site on Friday...and I was very saddened to see the project disintegrating. When I came, there hadn't been any visitors for the last two months... [and] nobody knew of our arrival. We came at 6 P.M., the guesthouse was dark...and they were surprised to see me. Then we helped them to prepare the bed, sweep the floor etc. It was so dusty... [and] they don't have any kerosene and cooking oil and rice to cook. Luckily we were really prepared so it wasn't so bad. But the guesthouse definitely needs repairs. The bath is leaking, the keys are not working, and what is worse is that the community group seems to be having internal problems also. Many of the guides have left to Pongkor to join the illegal mining. I sat out in the porch and I feel sad to see so much investment ends up in ... nothing? Is it true that nothing can be done? [There was] so much hope [given to] these people... After my trip there, I feel so bad. I want to help these people but what can I do?”

continued next page

Based on our experience, BCN's enterprise approach to developing ecotourism will likely fail if:

- During its initial stage of development, a project gives too much emphasis to the product and the community development without paying sufficient attention to creating cash benefits to the local community. For better or for worse, benefits are the main way to encourage community participation in any project activities in almost every part of Indonesia. The faster the project creates benefits, the bigger as well as the better the participation from the local community. There have been many examples of projects involving local communities that were finally abandoned by the community because the people were not patient enough to wait until the project created the first revenues.
- A project tries to involve a large number of people in the community and sells their ecotourism products cheaply. Involving (mobilizing) the whole community in a community-based project might be politically good. However, revenues that are generated — especially if the product is cheaply sold — have to be split in such a way that every community member will only receive “a very small slice of its cake.” This will certainly not motivate the community and proper participation will not be given as people prefer jobs that are more profitable.

LOOKING TO THE FUTURE

Lessons learned during the BCN-funded project implementation showed that there are ineffective management policies and strategies that have to be improved. But continuing the project development in GHNP is a must — especially if we want to see the enterprises' positive outcomes and in particular its role in achieving biodiversity conservation. We need a project extension so the consortium can find a source of further funding. The most important thing is the consortium members' commitment to the project's goal.



BERND CORDES

continued from previous page

There is an old saying that things are always darkest before the dawn. And clearly things are pretty bleak for this project at the moment. But these types of crisis periods are actually very important. Despite heroic efforts, the old Consortium seems not to have worked as a long-term entity to manage this project. The hope is now that the talented and dynamic people involved in this project can pick up the pieces, learn from their experiences, and move forward in the future to ensure that this project and the enterprise continue to be positive forces for conservation at Gunung Halimun National Park. There are already some signs that this might happen. In February and March, visitors continued to go to Gunung Halimun, sometimes in large groups of 20 or more. Many of the visitors had very positive things to say about the experience and hope to return, despite some of the management problems.

Story: Rinaldi Joy. Rinaldi managed the day-to-day project and enterprise activities for almost three years. He is now the head of Yayasan Ekowisata Halimun (the Halimun Ecotourism Foundation).

BCN Commentary: Bernd Cordes, Senior Program Officer, Jakarta.

TIMBERRRR....



MARK LEIGHTON

After a four-year process of working with the government to develop precedent-setting policies, this community enterprise may actually begin production, in part thanks to the fall of the old government.



What's Happened Over the Past Year?

After interminable delays — first building government consensus for this innovative approach, then getting the agreements signed, and then being interrupted by political instability in May — it seems hard to believe that field implementation finally got under way! A complete timber inventory of the entire 5,500-ha site was conducted to verify that densities and volumes of commercial species available would fit with our marketing plan and enable us to set up a financially viable and ecologically sustainable enterprise. The result is...it looks good!



**GUNUNG PALUNG
NATIONAL PARK,
WEST KALIMANTAN,
INDONESIA**



PARTNERS:

- .. HARVARD UNIVERSITY'S
LABORATORY OF TROPICAL
FOREST ECOLOGY (LTFE)
- .. MINISTRY OF FORESTRY
AND ESTATE CROPS,
GOVERNMENT OF
INDONESIA (MOFEC)
- .. YAYASAN BINA SWADAYA
(YBS)





NICK SALASKY

After interminable delays, it seems hard to believe that field implementation finally got under way!

The inventory was done entirely by community ex-loggers (some of them formerly log poachers), and was of very high accuracy. During the inventory, at least 30 men were doing forestry work in the community forest management area and thus not logging in the park. Our socioeconomic team completed their baseline monitoring and other tasks, providing critical data that persuaded government officials that our assumptions about the communities surrounding the community forest area were valid. A full-time partner specializing in community development, Yayasan Bina Swadaya (YBS), joined us in May. YBS's strategy soon paid important dividends in revising our model for community institution-building, and had unexpected benefits, building community support by diversifying our activities.

In fact, most of our important conceptual breakthroughs have been serendipitous. Our initial contacts with forest certification agencies a few years ago led us to conclude that they were irrelevant to our goals. But in the interim, we explored the comparative profits on international and domestic markets, and a chance meeting led to a field trip that completely changed how we value certification's central role in funding and sustaining community forest enterprises. The political upheaval in Indonesia instituted a new philosophy in the government and the public at large, creating a huge window of opportunity for change around forest conservation and management. And, our role in policy

advising has been transformed from a nagging voice to becoming "darlings" within the Ministry of Forestry. But it's a dangerous euphoria, because forest resource management is an onerous task, not at all solved just by empowering local people. So, surprisingly, when we look back on what has been accomplished since May, we are relatively ahead of schedule.

Political upheaval instituted a new philosophy, creating a huge window of opportunity for change around forest conservation and management.

There were, of course, unanticipated problems as well. Despite the strong, sincere support of forestry and park officials, their field staff and procedures have yet to solve the problem of site security from outsiders. Community monitors need support from government forestry staff and police to evict illegal loggers. And district government officials have been slow to convert to the project.



PROJECT OVERVIEW

What's at Stake?

From coastal mangroves, to the epiphyte-rich montane and cloud forests of Mt. Palung, Gunung Palung National Park contains a complete gradient of tropical rainforest habitats. The 90,000-ha park is home to a vast diversity of life including endemic proboscis monkeys and the largest remaining population of orangutans in Kalimantan. Many of the animal species in the park depend on the range of habitats and migrate among different ones throughout the year. Unfortunately, the park is fast becoming an island of forest surrounded by agricultural lands. Furthermore, the park itself is being constantly nibbled away at its edges, with perhaps the greatest threat coming from villagers illegally harvesting timber from the forests in and around the park. Although some of this logging is taking place in old timber concessions around the park, there are increasing incidents of timber being harvested from the park lands. Other threats include cutting of forest for subsistence agriculture and hunting of wild animals.

What's Being Done About It?

To counter these threats, the Harvard Laboratory of Tropical Forest Ecology (LTFE) has been working to establish a small community-managed and owned enterprise in a 5,500-ha buffer zone adjacent to the park, in an area that was formerly a timber concession. The goal is to give villagers who are currently engaged in illegal and unorganized logging efforts a chance to find alternative employment in a more sustainable logging enterprise. Logs will be harvested in a way that minimizes the damage to the residual forest and encourages forest recovery. Furthermore, the project will establish a small sawmill to enable local residents to add value to their logs and thus generate more benefit per log harvested. In addition to timber extraction, the project has already involved organizing community members to patrol the park border and rehabilitate previously disturbed lands. Thanks to this project, for the first time community members in Indonesia have been awarded the rights to manage a timber concession. The project now has the potential to help set policies regarding community resource management and forestry practices throughout the country.



New Models

Political changes in Indonesia in 1998 had a direct impact on forestry laws and regulations. Presently, we are moving ahead in an unstable climate and amidst raging debates about how to reform various laws and make them apply at the field level. One promising development is an on-again, off-again move by the Indonesian government to revoke licenses awarded to forest concessionaires who have demonstrated unsustainable cutting regimes or who have “abandoned” concession areas after having high-graded them. The 5,500-ha area where the project is located falls in this second category. It is a concession still “owned” by a parastatal, PT. Inhutani II, which long ago stopped active cutting in the area and left behind a large stock of commercially valuable tree species. But because Inhutani II still holds the license to the area, any logging there by local villagers or under the direction of this project is considered illegal. This project could have a major impact on policy if, as now seems likely, the license for this concession is transferred from the current concessionaire to the communities. (Many high-level meetings have taken place to address this issue.) Replication of this process has been discussed in various policy settings, and while the project should not be considered a “model,” it certainly can be considered a guide because of the lessons we’ve learned along the way about how to effect this sort of change in resource access and management.

SUCCESSSES

Policy Changes Promote Community Timber Enterprises

The era of Reformasi (reform) has shaken old attitudes about central authority over the provincial forests, opening the way for new models of forest management and conservation. Our strong efforts over the initial two years of the project to promote the concept of community enterprise-based conservation with the government may have resulted in less progress in the field, but they created an awareness that bore fruit when this era dawned. And now, because we have the only demonstration project for community timber management in production forests, it is being strongly promoted. But this gives us pause, because it should not be viewed as “the model,” as it is being prematurely championed in some quarters. We are confident, yet humble, knowing that we have many hurdles to cross before we can recommend a range of options from our experience. We are only beginning! Nonetheless, this offers a very big window of opportunity. We find ourselves being more skeptical than most, because there is a premature expectation that tenure rights to forest for local people translates into forest protection and management. The most difficult task — which we illustrated in seminars with a graph showing that gross and net revenues from timber sales increases steadily with the area cut per year — is to institute regulations, field audits, and sanctions for failing to protect future sustainable income by harvesting today.

Because we have the only demonstration project for community timber management in production forests, it is being strongly promoted.

Similarly, Reformasi has allowed all stakeholders a greater watchdog role and participation in national park management. We were amazed when senior forestry officials suggested that student environmental activities could be recruited to patrol the park together with park rangers and community members. So, late in the year we encouraged this, highlighted by a rousing meeting of all stakeholders about problems of illegal logging and corruption in and around Gunung Palung. This has led to an agreement with the National Park Head to support these multi-membered teams for patrolling and for incentive-laden and outcome-based evaluation of patrol effectiveness.

Community Institution-Building Is Blossoming

Bina Swadaya’s participatory rural appraisal exercise indicated that the very low level of community institutional development within the nine participating villages required revision of our plans. So they initiated, within each village, a series of training and development exercises that encouraged community members to form Self-Help Groups (SHGs), legal entities capable of receiving loans. This allows members to gain experience in electing officers and working as teams. With our very small

investment into a credit fund, SHGs have begun gaining experience in writing proposals and obtaining loans. While we immediately marveled at the skills of our new partners, we soon worried that the formation of fishing SHGs and irrigation SHGs was too tangential to our conservation objectives. But, in fact, this had the unforeseen effect of spreading support for the project within the community to members who have no interest directly in the forestry enterprise. It also won support from skeptical district-level officials who champion village development per se, without much concern for national park protection. Though we are still far from our goal of developing community institutions responsible for managing the forest area and a forestry enterprise, this work has been very welcomed in the communities and by the government.

Adequate Volumes Combined With Markets for Certified Wood Are Good News

When we finally secured approval from top forestry officials to begin work in the field, we were then allowed to present our detailed plans to provincial and district forestry officials, who challenged our inventory data. It is of course critical that the Forest Management Unit (FMU) contains sufficient commercial timber volume to allow profitability and sufficient revenues from marketing wood to support the relatively high capital costs of harvesting and management. If too little income is generated because stocking is low and the required long rotation cycle allows only small volumes to be harvested, then, despite all best intentions, the project would fail from lack of financial viability. We were confident that our small pilot sample of timber stocks (obtained during the Planning Grant phase) gave us a figure that was not too far from a good estimate of the annual allowable cut. Nonetheless, we were greatly relieved that a full 4% sample showed that this selectively logged peat forest still maintains high timber volume — much of it from commercial species.

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MARK LEIGHTON



Developing Stakeholder Groups

Throughout the process of negotiating with the Indonesian Government to allow project staff to begin working in the field, there have been several major sticking points, among them the key questions of “Exactly who in the community would hold title to the land and the timber resources?” and “Who would be responsible in the long-term for managing the enterprise?” The communities living nearby and in the buffer zone of Gunung Palung National Park are not as cohesive as those in other areas of Indonesia, in part because many of the inhabitants are recent migrants. So, the challenge to the project is to establish a legal entity - a foundation, a cooperative, a for-profit private partnership, or some mix - within the communities so that title for the area can be turned over. In late 1997, project staff began talking with Yayasan Bina Swadaya, one of Indonesia’s most established community development NGOs, about helping the project build local institutions and relationships. The partnership was to lead to the creation of a legal entity that could claim government-recognized community ownership of a forested area, and the community’s right to harvest and export timber found there. Bina Swadaya began working with Harvard in mid-1998, after the Indonesian government gave clear permission for active work in the field and BCN provided a small grant directly to Bina Swadaya. One result has been the SHGs, but these are just one step in the process.

Even more important gains in projected income have come from revisions in our expected market prices, after we strategized with our wood products marketing collaborator, Jerry van Vloten of Monty's Wood Design. Laws and green consumer demands for certified wood products in Europe have increased demand drastically as year 2000 approaches and as manufacturers scramble to find certified wood supplies. We have been developing wood product lines and buyers, and committed ourselves to certification by Smartwood during 1999. Therefore, our very first shipments of sawn timber and/or finished items will be certified.

CHALLENGES

Building Government and Community Ownership

Despite the fact that most staff are Indonesian, this project is often referred to as "the Harvard Project." It is amusing to hear some people, even those in one of the participating villages, mention that Harvard (or worse yet, the project director, Mark Leighton) owns the forest or is logging the forest. But this constitutes a failure to build ownership and responsibility for success among our partners — the community members who will, much sooner than they possibly think, take over operations, and the officials from the Ministry of Forestry, who support the project because they think it can guide policy reform.

Despite the fact that most staff are Indonesian, this project is often referred to as "the Harvard Project."

It is easy to make excuses that time spent talking with local people is limited by the demands of funding and deadlines for results that measure progress towards our objectives. Or that the forestry officials who so strongly support



NICK SALASRY

the project have failed to follow through in appointing staff who can really work with us in the field and present it as a Government of Indonesia project, as our agreement clearly indicates. But the truth is, we have not devoted the same creative attention to this problem as we have to dealing with technical problems — and it needs to be addressed.

We've learned that first, we must have government field representatives consistently take the message of support from the government to local people. They must be as articulate and knowledgeable about our project as our Indonesian staff, Pahrian Ganawira and Hikma Lisa. Second, we need to develop effective educational materials to explain the logic of the conceptual model behind the project. It's a complicated interdisciplinary project. The way in which certification and the resulting enhanced market prices influence the rotation cycle of the FMU and the degree to which a community enterprise must follow Indonesia's complex forestry prescriptions are complicated issues. We need to hone the message for different users in clear illustrations that turn on the lightbulb rather than elicit vague nods in the dark. We need to take the time off from fieldwork and analysis to "waste" time — time well spent in the end — with the inefficiencies of holding more meetings among all the various stakeholder groups to develop concepts with them as active participants in the dialogue.

Who Will Manage the Community Forestry Enterprise?

Do our community members, especially the illegal loggers, want to take responsibility for managing a forestry enterprise? It's clear they are enthusiastic about becoming trained field forestry workers and managers, but what about administrative and technical staff? We are not yet certain how this will shake out.

One perverse effect of our diligent efforts at institution-building through the SHGs is that our target group is relatively neglected. The skills development train is leaving the station and the loggers are left behind, unavailable because they are in the forest either conducting the forest inventory or in most cases, illegally logging elsewhere! Suddenly, when we turned around, there were 16 SHGs but only 2 are forestry SHGs versus those focused on village-based economic activity. So if representatives from these organizations are to be drawn to an umbrella institution — the one we need to represent all community stakeholders — then we need to have the loggers and others keen on forestry well represented, if not dominant. Otherwise, we risk ending up with a "policy board" of some type that is neither knowledgeable nor interested in forestry at best, or at worst, conspires to siphon off financial resources and profits for their own interests. We are not yet talking to the right people, and still need to develop groups and strategies that communicate well with the project and represent their constituents. So appropriate institutional structure remains murky.

Participatory Forest Protection Needs Government Backstopping

Just when we thought the problem of security within the Forestry Management Unit was licked, with SHG members eager to monitor the area and protect their



Hurry Up and Wait

Keeping communities interested in the future prospect of a project and legal enterprise has been a major challenge, especially because of the endless delays. For example, the government's delays giving the communities legal access to timber resources necessitated putting many other activities on hold. The project staff have spent the last two to three years getting to know the communities, the local government and park officials, and, especially, the individuals engaged in legal and illegal logging in the area. This has included going out with the loggers into the forests, camping with them, learning what motivates their current activities and what would create incentives for active participation in the proposed legal, sustainable timber-harvesting project. It has not been easy, but this project and the staff have a level of knowledge and experience in perseverance, working with government officials, and managing expectations that is unique and important for community conservation and sustainable timber-harvesting in Indonesia.



sustainable livelihood, a renegade villager recruited a team and began cutting. To add insult to injury, the location for this illegal operation is a stone's throw upriver from our forestry research camp. Discussion and threats from other community members have not worked to convince the usurpers to leave. Trips by forestry officials and police have been poorly coordinated and ineffective.

A renegade villager recruited a team and began cutting. To add insult to injury, the location for this illegal operation is a stone's throw upriver from our forestry research camp.

On the bright side, villagers living near the community forest area, those in most direct communication with us and receiving a disproportionate share of employment when we started forestry activities, largely withheld from logging and eroding the resource base during the two years it took to get the go-ahead. Still, a more effective strategy for backstopping community monitors is needed, especially one that is incentive-based and rapid in its response. Government involvement needs to support the community's efforts.

Enterprise Thinking Solves a Conservation Catch 22

The major challenge to replicating any community-based forest management enterprise to other sites is overcoming the start-up costs that accrue before revenues start being generated. Communities need the capital to buy equipment, especially for their own sawmill, if they are to receive the value added from marketing sawnwood or finished products rather than just selling logs to the illegal sawmill downstream. After all, community logging per se is what goes on now, the economics of which demands large areas of forest incompatible with sustainability and such low returns to loggers that it barely supports subsistence. We have been disappointed that even those NGOs that advertise that they make loans for



MARK LEIGHTON



NICK SALASKY

conservation, in the end, require guarantees and collateral no different than your local branch of Citibank. However, we have been developing new strategies that might meet these start-up costs. They have come about through our contacts with people involved in wood product marketing and financial investment advising. They look very promising and have been endorsed by forestry officials who wish us to continue developing them. We're certain that unless we had been discussing conservation problems with wood traders and investment experts, we would never have thought of these strategies for financing.

LOOKING TO THE FUTURE

We feel we are only just starting. We have at least two years to fully evaluate results from this, but this should be a period marked by very strong support for the project, without the same uncertainty about scheduling and timetables. We have wonderfully committed and professional collaborators, and dedicated, experienced staff. It looks like we've secured funding to continue for this time frame. Onward!

But very real pay-offs have resulted from taking this risk — in spite of the delays getting started. The legal and regulatory discussions on community forestry have advanced in Indonesia, and especially in West Kalimantan, because of this project. On-site, there has been less illegal logging — and, therefore, more conservation — within the park's boundaries and within the concession area, as a result of closer collaboration among the communities, park officials, and project staff. Much more is known about the socioeconomic conditions of the communities living in the area, making it easier to target specific conservation and development interventions. An innovative cutting cycle and economic model for sustainable timber-harvesting has been developed and refined to the extent that it is one of the most comprehensive yet devised. And, finally, implementation of this project has generated enough lessons learned that project staff are now able to adapt and understand how other approaches — especially regarding financing start-up costs and approaching things from a more commercial-oriented approach — might be used to replicate these efforts. And the work will continue.

Story: Mark Leighton and the LTFE staff. Mark is the director of the BCN-funded project. He has directed research in conservation and forest ecology at Gunung Palung for the last 15 years while a faculty member at Harvard University. The LTFE field staff includes forestry socioeconomic coordinator Hikma Lisa, project liaison officer Pahrian Ganawira, field manager Edward Pollard, several other staff from the participating communities, and student volunteers. They can be contacted at LTFE@pontianak.wasantara.net.id



Looking at the Bottom Line

Given the level of “investment,” was it worth it? BCN tries to be honest and objective in answering this question relative to all of the projects we support. In some respects, the answer for this project would clearly be “No.” Why? Because the enterprise has not yet generated income for the community. Because full legislation changing existing forestry laws was never enacted as a result of this project. And because it was a large grant — U.S. \$500,000 for three years. But this is a limited analysis. When BCN agreed to fund this project, we knew it was risky. Legal, sustainable community timber-harvesting and management within a concession area was (and still is) largely unprecedented in Indonesia. The policy context wasn't conducive for this type of activity. It was a risk for a conservation organization to be supporting timber-harvesting at all, especially when led by an “outside” group.

BCN Commentary: Bernd Cordes, Senior Program Officer, Jakarta.



Too Much BUSINESS

BRIND CORPUS

A rattan handbag production company discovers that being in demand can be a mixed blessing.



What's Happened Over the Past Year?

In spite of the political turmoil and economic crisis in this country, 1998 was a year of marketing. The manufacturers have become remarkably skilled at producing stylish, high-quality rattan handbags, briefcases, and business accessories. So now that we had the products, it was time to find a market for them. In the previous two years of project implementation, YDT had already trained 11 communities in raw material selection, standardization of product outputs, simple management skills, and environmental awareness about sustainable harvesting. Thanks to strong leadership, capacity at the village level was making good headway, although we still needed to increase overall production.



WEST KALIMANTAN, INDONESIA



PARTNERS:

- .. YAYASAN DIAN TAMA (YDT)
- .. P.D. DIAN NIAGA
- .. ENTERPRISEWORKS WORLDWIDE (FORMERLY APPROPRIATE TECHNOLOGY INTERNATIONAL)
- .. SOCIAL FORESTRY DEVELOPMENT PROJECT (SFDP)





The manufacturers have become remarkably skilled at producing stylish, high-quality rattan handbags, briefcases and business accessories.

In the past, we targeted domestic markets, concentrating on tourists and expats in Jakarta, Yogyakarta, and Bali. This market however, did not prove to be strong enough to support our goods, so we shifted our sights overseas. We found the export market to be much more profitable and stable, especially with the current exchange rates. And even though costs of imported spare parts (such as needles) have skyrocketed, revenues from sales overseas have also increased substantially, particularly when converted back to rupiah. Overall, the international market has been receiving our natural products with great enthusiasm!

SUCCESSSES

International Demand

The major success story from this year is the expansion of orders for our products. This year, YDT staff attended several handicrafts, gifts and fashion exhibitions, at home and in the United States. We found them to be very productive in making useful contacts and identifying potential buyers. We are now receiving orders from the United States, Japan, and Korea. At any one time, the requested quantities range from the hundreds to the thousands. One of our first international orders came from Japan for 900 units of handbags. However, due to our limited production capacity at the time, we had to negotiate the size of the order down to 300 units. Once we were able to supply the products, they had to undergo numerous rigorous tests to pass the notoriously high quality standards in Japan. One of the quality tests involved placing a weight of 10 kg

[22 lb.) into each bag and hanging it up to see whether all the parts held up. Another test checked for the smoothness of the rattan-weave surface by rubbing the bag against a wool material and seeing if any shreds of the fabric came off. We are proud to report that the vast majority of our products stood up to these tests and met our customers' satisfaction!

One of the quality tests involved placing a weight of 10 kg into each bag and hanging it up to see whether all the parts held up.

More Disposable Income

The project is about incentives for conservation — in this case, financial incentives. Community members in 11 villages have made money from the handbag enterprise so one question is, what do they do with the income they've earned? And how does it affect the way they utilize the resources and biodiversity around them?

YDT staff are often happy to return to the villages and see their partners enjoying new radios, televisions, and more durable roofs on their houses. Or, in



The Importance of Income

At one level, the income generated by this project may appear trivial. But over time, if the prospect of a new pair of jeans, better school materials, or a more prominent role in the community is sufficient incentive for sustainable resource use and conservation in this area of West Kalimantan, then so be it. It is precisely this type of relationship, between incentives and conservation, that YDT staff is now monitoring and intends to continue monitoring in the future.

PROJECT OVERVIEW

What's at Stake?

The forests of West Kalimantan are home to some of the rarest of the rare: flying squirrels, tarsiers, hornbills and orangutans. These and other animals are still hunted and their habitats degraded because people living near these forests are struggling to subsist, and large, external economic interests see an opportunity to exploit abundant resources. Overhunting, agricultural extension, and unsustainable extraction of forest resources threaten both the region's biological diversity as well as the future economic stability of local communities.

What's Being Done About It?

Yayasan Dian Tama (YDT) and its collaborators work in and around the Participatory Forest Management Area (PFMA), a 10-year, 102,000-ha community-based forest concession awarded to the Social Forestry Development Project (SFDP) in 1990. One goal shared by both YDT and SFDP is to develop national and local policies to support sustainable use and commercialization of timber and non-timber forest products in West Kalimantan. Two critical aspects of this project are the needs to establish clearer resource rights and establish alternative income sources.

The BCN-funded, YDT-led enterprises are part of a larger overall strategy that focuses on the harvest, processing, and sale of specific non-timber forest products (NTFPs). YDT and its partners have established market linkages to sell semi-processed rattan and, to a lesser extent, bamboo to a Java-based manufacturer and marketer of handbags. YDT (nonprofit) and Dian Niaga (for-profit) work with individual rattan harvesters to develop their enterprise skills, add value to the raw material locally, and act as a marketing bridge for the unprocessed and semi-processed products.



Balancing Supply and Demand

Active, sustainable management of the rattan resource was delayed for two reasons. First, establishing an effective biological monitoring system in which the community was directly involved wasn't a priority when the project began. The project staff felt that many other enterprise and community-related activities were more pressing and, quite honestly, easier for them to set up since biological monitoring was not their strength.

For us, one meter is always one meter, but for the community members, one meter can be five widths of floorboards, no matter whose floorboards they are.

the case of many of the women involved in the weaving business, blue jeans are at the top of the wishlist. The extra income is also used to start savings accounts, or to pay for a child's school books and uniform.

Though several men are involved, YDT made a conscious effort to work very closely with women in these village, training them in weaving designs and quality control, and working with them as leaders in managing the resource and the enterprise groups. As a result, women's social status has increased and they are often the biggest and most direct financial beneficiaries of the handbags and mats that are sold.

CHALLENGES

Balancing Supply and Demand

With the successes in marketing come the challenges of community-scale enterprise: how to balance supply and demand. To date, our largest order has been one for 10,000 units of handbags from Korea. Even with 11 villages and 70 active weavers, it is impossible to fill such a large order in the short amount of time expected by these markets.

On the production side, we have problems with both raw material and labor. For our manufacturer in Jakarta, who processes the baskets into the final products, it is more cost-effective to mass produce a few different designs, rather than to make a few each of many designs. This is also the most expensive part of the value-added process, so we cannot accept orders that are too small and varied. On the other hand, our manual production capacity at the community level suffers under orders that are too large. Our production capacity limits our ability to meet orders on a consistent basis, which is critical to establishing a stable business relationship. It's exciting to know that people are interested in our product, but frustrating to know that we still cannot reliably fulfill large orders.

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Sustainability

We are still not sure what the sustainable levels of extraction are, and finding enough rattan or bamboo locally, let alone harvesting them sustainably for so many bags and baskets is close to impossible. Villagers are already finding that they must travel farther and farther to find the raw materials they need. In some cases, community members are venturing into neighboring village properties to collect enough rattan or bamboo. If we want to prevent destructive overextraction, we must provide the communities with raw materials from other sites, or reduce the amount of orders that we accept. In addition, only five or six villages out of the 11 trained have enough rattan growing in their immediate



areas, so that we must find the raw materials elsewhere and transport them to the production sites. We are also planning to replicate the production system in other villages to meet the growing demand and combat the scarcity of resources. This way, we hope that the production capacity will grow, while diffusing our impact on the natural environment.

Second, without a monitoring system, community members only had anecdotal evidence that the rattan supply might be limited, and that natural regeneration wouldn't be sufficient. So, as the enterprise developed and larger-than-expected international orders came in, the extraction of rattan increased from subsistence use (e.g., construction or baskets) to systematic cutting. Although the harvesters noticed they were having to walk further to get it and saw the need for pro-active replanting, the results from monitoring done in late 1997 were not available to most of the project staff and community members until late 1998.

The lack of property rights for natural resources is becoming a problem here as it is everywhere else. As people in the communities are realizing the economic value of forest resources, their ownership, which never needed to be defined clearly before, is now becoming a point of contention. Where does one village's property end and another's start? What is considered personal property versus communal? If a member of the community plants the rattan or bamboo on his or her 'property,' will the raw material be used only by the individual or shared by the village? These are questions that will continue to be raised, until property rights are clearly defined and established.

Quality Control

In the beginning, the concept of quality control (to produce uniform and standardized goods consistently) was sometimes difficult to relate to the community members. For instance, the baskets did not always turn out to be the same size, even though we would provide the exact measurements with our orders. The problem turned out to be the difference in our perceptions of measurement. For us, one meter is always one meter, but for the community members, one meter can be five widths of floorboards, no matter whose floorboards



The Tenure Question

The arrangement between SFDP and the Indonesian government in 1990 (before BCN came on the scene) was that community members would be allowed legal access to most forest resources, which could then be legally used for subsistence and for sale. Examples include rattan and rubber. But during the 10-year project, an Association of Villages had to be established that could demonstrate to the Indonesian government that it could sustainably manage the resources in the PFMA. If that is demonstrated, then the Association and the communities it represents could have co-management responsibilities with the Indonesian government in the Year 2000.

they are. Naturally, one meter turns out to be different in each person's house! For this problem, we did find one solution though: We now provide molds and samples, as well as giving numerical measurements for the dimensions.

Tensions Between Community and Business

Another drawback to dealing with demand from well-established market economies is the lack of the same mentality on the community side. Even if we succeed in bringing in large orders, the production capacity is not always up to the task. It is sometimes difficult to force people who have not yet entered the global market economy system to produce a certain amount within a certain time frame. If we push too hard, it can even have negative consequences on production, so we always have to be mindful of not being too forceful or authoritative. For example, there was a time when the orders happened to coincide with a post-harvest festival, and the community members were too busy with the celebrations. The festivities took precedence over the economic incentives of additional income from basket weaving. Sometimes, the distinction between being a not-for-profit, for-community organization and being a business enterprise can be conflicting. As a business, it can be frustrating to have to turn down some orders, but as a community development organization, we must respect the people's needs and priorities. The last thing we want is a mass-producing factory of non-timber forest products in the villages. We must always remember that even though we are running a business, we are ultimately working for the welfare of the communities.

It is sometimes difficult to force people who have not yet entered the global market economy system to produce a certain amount within a certain time frame.

The Association has now been established, but a lot of work still needs to be done. Villagers in the PFMA now were only this year given the legal permits to cut and sell timber from a small 500-ha site within the PFMA. The project did strengthen access claims to rattan and bamboo, but the people still don't own or have legal title to the resources. Their access can be taken away very quickly.

Understanding Sustainability

There is a story about a blind man who owns and makes a living from his store. Because he is blind, whenever somebody comes to buy something, he doesn't know whether he has it or not, or how many he has, much less where it is, or what is the right price to ask for it. When first we started the BCN project, we felt like that blind man with his store. We have the 'store' — 100,000-ha within the Participatory Forest Management Area with 17,000 people living in it — but we don't know what kind of specific 'things' are there, where and how much stock we have, or the potential for growth or annual yield. We don't know exactly what there is to harvest, nor at what levels it would be sustainable.

Using transect methods, the natural resources inventory was completed. We know the various species and the amount of each in the transect. But it still difficult to find out how many rattan clumps there are, their growth rate, or how much can be harvested. We do not know what to base the calculations on to determine the potential yield of each non-timber forest product. Our dream — knowing what the sustainable harvest level is — is still far off, and maybe we won't know for another year or two. Even though the transects are established within the forest management area and there are local villagers that know how to do the monitoring, the information we need from the biological-ecological monitoring will take longer than the time we have left in the life of the project which ends in 1998. So how will we be able to continue?

ON THE CONSERVATION FRONT

Our initial hypothesis in starting up this enterprise was that communities would contribute to local biodiversity conservation by making a shift away from slash-and-burn rice farming, if the manufacturing of non-timber forest products proved profitable enough. Pak Sunda's career change for example, is exceptional, and it is still too early for us to deduce conclusively that this is the pattern we will continue to see in the future.

The project cannot claim much of an impact on biodiversity conservation. It can claim, however, more enterprise-related success than most of our other partners. While the business is not, after two years, financially self-sustaining, it is close. The project made progress in establishing markets, covering costs, creating village-level weavers groups, and training community members in 11 villages in high quality, consistent weaving. As a result, the community members have enjoyed benefits largely equal to the work they put in. This is good from the business perspective, but perhaps not as positive for community cohesion. There is still a question of whether or not more people need to be involved more equitably before active sustainable use or actual conservation of local



But Is It Conservation?

YDT is, at heart, a community development NGO. As a result, it and its partners do not necessarily approach the project from a strictly conservation perspective. BCN not only knew this, but chose to work with and provide support for YDT, understanding that it, amongst all of our partners, had some of the best mix of enterprise and community development experience. The results of YDT's work over the past three years has reflected this difference.



SANGO MAHANTY



Too Much Success?

Because of YDT's recognized success in enterprise and financial management, it has been approached to help pursue other initiatives. Examples include assisting with the development of an ecotourism business, expanding its community-level rattan business to other parts of West Kalimantan, and implementing small-scale credit mechanisms, acting as a marketing arm for a PFMA-based cooperative. But no matter how effective YDT's staff is, there is a danger of spreading the organization's talents too thinly, and diverting attention from the need to ensure the rattan enterprise's financial and environmental sustainability.

BCN Commentary: Bernd Cordes, Senior Program Officer, Jakarta.

resources can be expected. The socio-economic monitoring YDT is doing in six villages should go a long way toward providing an answer.

We remain concerned that such transitions will be difficult because of the deep-rooted custom of rice farming in this area. Although nine months of hard labor in the fields only yields four to five months' worth of rice to subsist on and farmers must also look to alternative income-generating activities such as rubber tapping, the lifestyles of the people here are steeped in tradition. Even if we find that the displacement of shifting agriculture by non-timber forest products manufacturing is becoming a reality, we are not sure that it is wholly ideal. We feel that it is still too risky to become dependent on this manufacturing and exporting market, since we do not know the real strength or stability of the market yet. If we could start over again from the initial designing of the project, we would create a more multi-faceted and integrated approach, so we would not be at the whim of a single market. For now, we look to our products as supplemental income-generating activities, and not as the main source.

As a result of our non-timber forest product activities, there have been slight shifts in the community members' perception of the natural resources around them. Now that the potential economic values of rattan and bamboo are known, farmers avoid cutting down big trees in the forest with rattan, when they encounter these in the process of their traditional slash-and-burn clearing (rattan is a vine that requires support). But villagers are also traveling farther to collect the weaving materials, because the supply of mature rattan around their neighborhood is no longer large enough. Whereas it used to take an hour or two of walking to gather the material, now it takes half a day to reach collection sites. Since they must trek far to collect rattan, villagers are starting to travel in groups, so that they can gather an adequate supply for a week or two's worth of work. When some villagers encroach upon the property of another village, neighboring villages complain as they realize that potential resources are being depleted by others. This is prompting the communities to pay more attention to their environment, and there is talk of creating zones for resource extraction area now. Awareness about natural resources, as well as extraction methods, in the villages is starting to change, and we plan to monitor the harvesting regularly.

LOOKING TO THE FUTURE

In the last three years of project implementation, YDT has made great headway towards achieving our ultimate goal of a sustainable and profitable community enterprise, but we still have quite a few steps to take. Although the BCN funding period for the community enterprise is nearing a close, our plans for the future are many. First, after the end of the extended funding period from BCN, we plan to make the P.D. Dian Niaga Eco-traders (the for-profit business branch of the project) completely independent of YDT. Often, the line between the business and community development organization becomes blurred. For instance, Dian Niaga sometimes end up purchasing below-export-quality products

from the communities, since the trainers and promoters must encourage them to keep producing in the beginning. However, especially in a competitive and rapidly fluctuating international market, the business cannot continue to absorb such extraneous costs. In order for Dian Niaga to become a profitable and sustainable enterprise, we believe that the business and marketing component of this project will benefit from being separated from the not-for-profit parent organization. This way, Dian Niaga can concentrate its efforts on for-profit activities, such as product promotion and market research, and discriminate against products that do not meet the market standards, while YDT can take on training and monitoring activities for community welfare and conservation.

Another one of our priority activities is the monitoring of rattan growth and regeneration. Although the inventory of natural resources has already been completed, it is not a record of the location of actual supply. Therefore, we must find a better way of monitoring where and when the raw materials are being extracted and how fast they recover. To counter the shortage of natural supplies of rattan, plans are under way to plant them in the villages for harvesting.

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As demand for our products have grown during the last three years, we have come to realize that the communities in the Participatory Forest Management Area alone cannot fulfill the large demand from the international market. As a result, we have extended our training to the Danau Sentarum area and have found this to be very successful. As a result, we plan to continue expanding our production capacity through training more communities in West Kalimantan. We will train villages that have plentiful natural supplies of rattan, as well as facilitate transportation of raw materials to production sites with scarce resources.

We hope that we will eventually be able to spread the wealth from our project beyond the participating communities to the entire region. It is our dream that the world will come to know the region of West Kalimantan for its natural products.

Story: Alty Utama and the YDT staff. Alty is the head of the BCN-funded project. Her husband, Rudy, is YDT's director. They have lived in West Kalimantan with their two children for 10 years and established YDT's offices on the first floor of their home. They have a staff of more than 15 highly motivated individuals. YDT is also involved in a 'green' charcoal (made from broken coconut husks) business, as well as an agricultural demonstration site/farm.



The BUTTERFLIES and the BEES



Butterfly sales and a honey-hunting business are demonstrating both the effectiveness and the limitations of community-based enterprises in Central Sulawesi.



What's Happened Over the Past Year?

The skill and adaptability of the villagers in the Butterfly Farming Enterprise are demonstrated by the increase in numbers of species farmed: a total of 19 species can now be reared, of which 15 have been marketed. The number of villagers involved has risen to 24 families, and activities have spread to 2 neighboring villages, Rahmat and Ampera. Pupae are shipped on a weekly basis to PT. Ika of Bali and, just as we hoped, farmers now handle the selection, purchasing, and packing of pupae in the village, and the permitting and shipping procedures in Palu. Total income to farmers for the period from January to September 1998 reached Rp 15,362,350 (U.S. \$1,864). In January, PT. Ika hosted a visit by four farmers to butterfly farming operations in Bali, where they not only saw butterfly farming on a commercial scale and set prices and production targets, but also established personal relationships with the owner and staff. Pupae sent to PT. Ika are being released in the Bali Butterfly Park, exported to Singapore, or used as dead specimens. When the Forestry Department introduced major changes to shipping procedures in January, which only allow registered companies or cooperatives to trade in flora or fauna, the farmers decided to set up a commercial company, CV Sinar Kupu-Kupu.

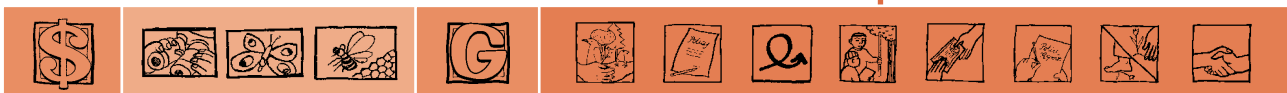


LORE LINDU
NATIONAL PARK,
SULAWESI, INDONESIA



PARTNERS:

- .. THE NATURE CONSERVANCY (TNC)
- .. CARE-INDONESIA
- .. UNIVERSITY OF GUELPH
- .. NATIONAL PARK AUTHORITY AND DEPARTMENT OF FORESTRY OF INDONESIA





Building a Business

As early as 1982, people living in the Palolo Valley were selling butterflies to the park's few visitors. Sales however, were inconsistent and the volume was small. For example, a Japanese collector would visit Palolo Valley, supplying a few individuals with nets and information on the species that he wanted. The following year, he would buy some of what had been caught. To call it a cottage industry would be an overstatement.

Since The Nature Conservancy started working with community members three years ago, the butterfly business has been transformed. Rather than relying on catching butterflies in the wild, the butterfly farmers have been trained in basic rearing skills and technologies. They now bring caught specimens to the butterfly cages they have built and stocked with appropriate foodplants. There, they rear butterflies and monitor their growth so that live pupae can be sold. They still rely on the forest and wild populations for fresh stock of genetic material (a must in the business given the butterflies' biology), but by "farming" butterflies, they can work on larger volumes of supply, sales, revenue-generation, and re-investment.

And now with TNC's assistance they are actively seeking out markets and buyers. They have established export markets and links with domestic buyers like PT. Ika in Bali. To do this, community members have had to work directly with government officials on necessary permit and resource monitoring arrangements. Only a year ago TNC staff felt that the butterfly business would for a long time rely on them and, therefore, not be managerially self-sustaining because the permitting process was so difficult. But now, the community members involved in the enterprise (the number having grown from 13 families to 24 in less than 2 years) have created their own for-profit business and are providing direct assistance to TNC in getting the permits to make their business viable. They are adding value and being proactive. Not all have benefited equally, but they have, for the most part, benefited proportionately to the commitment they have made and work they have put in.

Just as we hoped, farmers now handle the selection, purchasing, and packing of pupae in the village, and the permitting and shipping procedures in Palu.

Win Some, Lose Some

Butterfly farming is a completely new technology for the villagers of Palolo, yet we have seen an impressive take-up rate. Unfortunately, beekeeping has failed to deliver the same level of cash returns, so consequently the uptake of this new technology has been very slow. Admittedly, the El Niño-linked drought of 1997 had severe impacts on the bees, as colonies couldn't make enough honey to grow, and the bees continually absconded from hives. Turn-over amongst farmers involved in the project has been high, and it has been difficult to maintain interest in training programs. In 1998, we have seen some improvements: pollen is now being harvested in small quantities for sale, and a small rotating purchase fund was set up with one of the beekeeping groups. Six farmers attended a course at the National Apiculture Center near Bogor in September 1997 and have had some success: one now maintains eight colonies and harvests honey for his own consumption on a regular basis.

Beekeeping has failed to deliver the same level of cash returns, so consequently the uptake of this new technology has been very slow.

The 1998 year has been a better year for the honey hunters of the Napu Valley. The honey flow, which failed in 1997, returned in January and February, allowing the Watutau group to harvest 445 bottles of forest honey, with a payment to members of Rp 2,559,750 (U.S. \$311). Following the agreement signed between TNC and this group in January 1997, the group managed a rotating purchase fund, buying and selling this honey for a profit on their members' behalf, yet still paying a rate almost twice that previously available in the village. Building on this, another agreement was made with the newly formed National Park Authority (Balai Taman Nasional Lore Lindu) allowing honey hunters access to the park's honey resources under a mutually agreed upon set of regulations.

When first drawn up by the honeyhunters themselves, the regulations were deemed too strict, and the Park Head actually made them more lenient. Called a Resource User's Permit (Surat Ijin Pemanfaatan or SIPMAN), this agreement is specific to honey hunters and the resource. The process was repeated for the honey hunters of Winowanga. In this case the agreement was with the local Forestry Department as the group mainly operates in production forest, outside of the park. Marketing of the produce has been relatively easy, all honey being sold in the villages or transported to Palu for bulk sale to store owners. In the

future, honey might be bottled for retail marketing. Even though a planned solar-honey drier didn't work, the existing post-harvesting technique produces honey that keeps reasonably well.

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A Participatory Rural Appraisal exercise carried out with villagers at Watutau showed that about 30% of the villagers were benefiting from the project, and that these people had a more positive attitude to the park than other villages surveyed. However, it appeared that there wasn't much spread of information to people outside the hunters' group.



Collecting vs. Ranching vs. Farming

There are some interesting technical definitions that lie behind the different types of butterfly enterprises. Butterfly collecting involves capturing wild adults. Butterfly ranching involves establishing foodplant stations (usually in forest gardens) with plants that the butterflies favor, and then harvesting the offspring that are laid at those stations by wild individuals. Butterfly farming involves collecting wild individuals and then breeding them in cages. Similar distinctions can be made between honey hunting (collecting honey from wild nests) versus bee-keeping (ranching or farming bees). The collecting-type enterprises tend to have a stronger "linkage" to conservation and are often simpler to set up, but they may be less sustainable over the long-term.

PROJECT OVERVIEW

What's at Stake?

Lore Lindu National Park (LLNP) in Central Sulawesi, a UNESCO Man and Biosphere Reserve, has been nominated as a World Heritage Site by the government of Indonesia for its biological, cultural, and archaeological importance. It is listed as a Center of Plant Diversity and as an Endemic Bird Area by IUCN. It consists of 229,000-ha of mostly montane forest with fringes of lowland forests. These are the largest tracts of unbroken forest remaining in Sulawesi. The park has a known bird fauna of 194 species (73% of Sulawesi's total), of which 66 are endemic, including the maleo and Celebes hornbill. It is home to two endangered large mammals, the babirusa and the anoa. The world's largest civet cat is found here, and at least two species of tarsier, a tiny primate. The insect fauna is poorly known, but includes many spectacular endemic butterflies.

LLNP not only supports wildlife, it provides natural resources to help meet the basic needs of people living in and around the park. Threats to the park are encroachment, infrastructure development, and illegal harvesting of rattan and other forest resources. The lowland forest habitats are being lost at the greatest rate and are the most threatened by human activities around the park. Still, compared to many other parks in Indonesia, LLNP is relatively intact.

What's Being Done About It?

To try to counter both current and future threats, the Indonesian office of The Nature Conservancy developed a project focused on four elements: 1) developing enterprises that support biodiversity — butterfly ranching, honey production, and rafting tours, 2) drafting a 25-year resource management plan with the Directorate General of Forest Protection and Nature Conservation (PHPA), 3) developing, with CARE/Indonesia, a broader community development program, and 4) ascertaining the impact of the above activities from social, biological, and economic perspectives. The project allowed TNC to work closely with PHPA on allowable access and use of protected areas, and to further its work with the government of Indonesia on policy issues.



Money Talks

In Winowanga, community members have honey-hunted for decades, and they had duly set up their own individual trade arrangements. At first there was not a lot of enthusiasm for establishing a more formal honey-hunting enterprise. But in July 1996, Pak Martinus — one of the traditional honey hunters — took his honey to the provincial capital, Palu. There, with the assistance of TNC, he was able to sell his honey for Rp 4,000 (U.S. \$2)/bottle to a local buyer, rather than the Rp 2,500 (U.S. \$1)/bottle he usually received. As a result, he made Rp 150,000 (U.S. \$64) more than he expected. This single event, according to project staff, was quite persuasive for the honeyhunters of Winowanga. By 1997, they had organized a honey hunting enterprise group and became much more active in the project's overall objectives.

Navigating Difficult Rapids

Although the rafting enterprise originally sounded like an interesting idea and a good way of diversifying the various enterprises being established by the project, so far it has not been very effective in practice. Setting up community-based businesses that are in remote areas and that require specific and unusual skills and infrastructure can be very tough: there are many hazards that can sink even the best-laid plans.

Diversifying Enterprises

In our southern site, because of poor access to the Lariang River and the low number of tourists, white-water rafting trips are still run as expeditions from Tana Toraja (the big tourist center). One more commercial trip ran the river in December 1997, and two were planned for October and November 1998. Of the six guides trained, five currently work as raft-guides in Bali and Toraja.

Four years of fieldwork (1995-98) and two social surveys have yielded interesting information on the ecology and socioeconomics of rattan harvesting in the south of the park. Rattan collecting is important to young men and households with limited access to lands. Fifteen years of intensive Calamus cane harvesting has eliminated readily available rattan supplies within approximately six km of villages, but it appears that the major ecological effects are not on the rattan itself, which can regenerate from cut stems. Instead, the problem comes from associated activities, specifically tree felling to extract cane and increased hunting by collectors. Trials have shown that cultivation of rattan cuttings for replanting is technically possible, but only one village has shown interest. Since 1995, and especially since the weak rupiah has made export crops very valuable, almost all villagers are turning to perennial harvests, particularly coffee and cacao. It seems rattan collecting may eventually exhaust itself as the resource becomes scarcer and other livelihood strategies become more lucrative.

Lessons learned from these activities are being applied to development of a dying skill in the Bada Valley to the south of Lore Lindu: the manufacture of barkcloth. In the past this was an important material for clothing, traditionally made by women through soaking and pounding tree bark. We hope to build up community groups that can do the manufacturing and can establish plantations outside the park, as well as developing agreements on resource use with the National Park Authority.

CHALLENGES

Dealing With Bureaucracy

Overcoming bureaucracy with the butterfly enterprise has been one of the biggest challenges. A plethora of permits are required — farming permits, trading permits, company structures, 20 page workplans, and site inspections amongst others — which require a level of sophistication and planning above the capacity of villagers working alone. Even though we send out butterflies weekly, visits to two offices and two days are required to obtain shipping permits. Not all permits bring good news. A TNC staff member aptly summed up one permit received as "an advance in the reversals sector." Although export of live, endemic pupae was allowed in 1997, now it is not. Exports from Indonesia are limited to the same species as from Thailand, Malaysia, and the Philippines, and so they are in direct competition. Only 2 of the 19 species raised in Kamarora are allowed to be exported. A successful link has been made between PT. Ikas and pupae importers in the U.K., which could encourage the development



of a widespread village-based industry across Indonesia if export of endemics were allowed. Lobbying at several levels has failed to lift this ban, which appears to be based on worries about potential loss of genetic material. At the local level, we tried to gain the support of officials by bringing villagers to their offices, but found it far more effective to take officials to the villagers on site visits or to explain policies.

Even though we send out butterflies weekly, visits to two offices and two days are required to obtain shipping permits.

Shipping Woes

Butterfly farming is very dependent on good transportation. Live butterfly pupae have a dormant phase of 14 days on average, and they must be in the buyer's hands within a maximum of 5 days after collection. This is proving very difficult to achieve, as local freight routes are expensive and unreliable. In fact, shipments to the U.K. in 1997 averaged only 3 days in transit, whereas domestic freight is often 4 or 5 days. We're still working on this problem.

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What Is a Butterfly's Genetic Value?

In November 1996, Indonesia hosted the Second International Conference of Parties on Biological Diversity (COPII). The conference highlighted the importance of identifying and protecting a country's "genetic wealth and heritage." In practical terms, it raised the Indonesian government's consciousness regarding its own levels of unique biological diversity.

Several months after COPII, the Indonesian government placed a ban on the export of all live endemic pupae. This ban was based on the assumption that, once emerged, the butterflies could be bred in captivity and Indonesia would lose both a source of revenue and a mark of its singular biological heritage (the key here is live endemic species; dead-stock of emerged, endemic species can be exported). Indonesian environment officials were rightly concerned and acknowledged that they needed to learn more about the situation.

The Nature Conservancy and World Wide Fund for Nature-Indonesia Programme both worked hard to gather information and testimonies from scientists, enthusiasts, and collectors from around the world to attest that, yes, scientists might possibly be able to breed butterflies from Sulawesi and Irian Jaya in labs in Europe and the United States. But it

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would take an enormous amount of time, money, and energy to do it — so much so that it is difficult to imagine that it would ever make economic sense. What's more, even if it could be done in a lab, a constant supply of new pupae would be required to avoid the defects of inbreeding which, in many butterfly species, begin to set in after only the third generation. As a result, TNC and WWF-IP were able to convince central government authorities that a blanket ban on the export of any butterfly species from Indonesia is unnecessary from a technical and policy standpoint and detrimental to the local households who derive income from such sales.

Given the evidence, the central government authorities lifted the ban in November 1997. Unfortunately, local officials in Sulawesi are less convinced and still will not provide the permits necessary for exports by TNC and CV Sinar Kupu-Kupu, the village-based company. As a result, the business has had to focus on selling its stock to PT Ikas, a Bali-based buyer of pupae, but they are hoping they will be able to diversify and that exports will be allowed to resume in the near future. This is a classic case of a common situation in which well-intentioned conservation laws can actually hinder conservation projects from reaching their goals and objectives.

Community Groups Are Made of Individuals

Initially, great interest is shown in a new project, especially if any immediate benefits can be seen, for instance, the donation of equipment. But many people drop out unless a good income is soon achieved. Limiting butterfly farming membership until a few villagers had been successful not only helped prospective farmers make a better assessment of the enterprise, it also allowed training to be more one-on-one. In contrast, it has been difficult to promote a group entrepreneurial spirit: most villagers are content to be producers only and to leave marketing problems to others. This either puts the onus on one or two willing people or makes the withdrawal of project support very difficult.

Keeping the Hives Humming

The low level of income generated through beekeeping has been very frustrating. The bees farmed, *Apis cerana* and *Apis nigrocincta*, seem to be particularly aggressive and prone to leaving the hive. Trials have shown that bees can be prevented from leaving by giving them sugar-water, but farmers are still not sure that their outlay will be returned. Pak Agus at Rahmat has maintained 14 hives by feeding sugar-water and had a valuable pollen harvest. His example is inspiring other beekeepers.

Monitoring

Monitoring to the standards required by BCN has proven difficult. Because of staffing limitations, we have tried to involve local forestry agencies and local charitable foundations, but the results have often been disappointing. Experienced domestic consulting agencies have on the whole been more successful than local efforts or international consultants, who might have technical expertise but tend to lack awareness of cultural context. Local monitoring of production (nests harvested, bottles bought, and bottles sold) in the honey-hunting enterprise has been effective, and these groups are submitting three-month reports to the National Park Authority.

Monitoring to the standards required by BCN has proven difficult.

Ecological research on two species of hive-making honeybee, *Apis cerana* and *Apis nigrocincta*, showed that the two are good predictors of habitat. *A. cerana* occurs mainly in disturbed agricultural areas around and inside villages, whereas *A. nigrocincta* is found mainly in good forest. Over the life of the project, *A. cerana* has moved into the forest above the villages of Rahmat and Kamarora, an indication that the forest quality has seriously deteriorated. We have to say that the returns provided by the butterfly farming and beekeeping enterprises just aren't large enough and don't reach enough people to replace the more lucrative shade coffee planting inside park borders. But the success of the honey hunters' agreement has given us some hope that the same process might be repeated with coffee plantations, allowing management of plantations under mutually agreed upon guidelines.

SUCCESSSES

Buying Into Enterprises

Two of the enterprises, butterfly farming and honey hunting, are providing good returns to villagers. We are seeing re-investment in equipment, and Pak Putujiwa even hires assistants. Simon Luwu used extra money from honey hunting to send his son to high school. Some people are turning from agricultural labor and butterfly catching to butterfly farming, but honey hunters are basically carrying out a traditional enterprise for better returns. This has been one of the major achievements of the project, to work with an existing technology and help villagers overcome obstacles to develop their own enterprise.

The hunters group is compact and enthusiastic. With the development of the SIPMAN and the revolving fund, they have a degree of control over their own resources. (A revolving fund of Rp 800,000 (U.S. \$98) was set-up in Watutau, and Rp 400,000 (U.S. \$49) in Winowanga, both in an effort to introduce better business and marketing principles to the honey-hunting enterprise.) They are enriching the habitat with plantations of flowering trees, have developed their own smoker for controlling bees, and are testing artificial nesting sites, called tingku, which should help to give better harvests.

A supporting factor has been the availability of local markets, and where possible we have tried to increase market demand by working with local traders. Promotion of honey-pollen mix with Pak Fahrid was too successful, and demand easily outstripped supply at first. Similarly, with butterflies we are working with PT. Ikas to establish export routes for pupae and markets for specimen butterflies produced by farming.

Five Key Factors for Enterprise Success

If we were to identify five key factors for enterprise success they would be: 1) availability of raw materials, 2) experienced human resources, 3) good local markets, 4) fast returns, and 5) provisions for suitable training. Our honey-hunting enterprise has the first four factors, so the fifth, training, is actually minimal compared to other projects. In addition, the village is a relatively homogenous ethnic group, and activities reach a good proportion of the populace. It's no surprise that this project is the most successful and the most likely to be self-sustaining. Another important thing to remember is that villagers are busy people : we kept meetings to a minimum and kept them focused!

The village is a relatively homogenous ethnic group, and activities reach a good proportion of the populace. It's no surprise that this project is the most successful.



Leading by Example

This story illustrates that new technologies or practices, such as feeding hives sugar-water or bringing honey to markets in the city, are often adopted by a community only after one person has tried them and has achieved and demonstrated success.

Was the Investment Worth It?

As stated, the enterprises developed as part of this project operate at a scale too small to have an immediately obvious, direct impact on conservation. So, in retrospect, was it worth supporting the project?

This gets at the crux of the BCN. One of the program's primary goals was to "test" the efficacy of enterprise-based approaches to conservation. As a result, "success" can be defined at several levels. For example, at a "big-picture" BCN-program level, this project has succeeded in helping to identify the conditions under which these types of small-scale enterprises can or, in this case, cannot significantly contribute to conservation, or to counter various threats at the site. This has value.

At the project level, staff members are in the process of modifying their strategies for working with communities and with Indonesian government authorities to conserve Lore Lindu National Park. They are taking a critical look at their work, devising new strategies, adapting to changing conditions and threats, and developing new ways of measuring their impact. This too has value.

It is important to note that they are adapting, not discarding, their conservation strategy. That's because they also succeeded at a third level. Project relations with various communities and community members are not perfect. But the enterprises have helped many families in the park's buffer zone. And, far more significantly, this approach signaled to community members that, yes, TNC and its partners represent

ON THE CONSERVATION FRONT

The scale of enterprises we are working with is too small to directly influence people to preserve resources: either they don't provide enough money, or the returns don't reach enough people. Still, the enterprise approach does have a role in conservation practice: it works to raise awareness of conservation issues in general and has been very successful in facilitating working agreements between villagers and park authorities.

The scale of enterprises we are working with is too small to directly influence people to preserve resources.

According to the results of PRA research from Watutau village, the population of *A. dorsata* bees is falling because of the sale of village forests to a large plantation company. Apart from honey, other forest products will be in short supply, so in around 5 to 10 years villagers will be forced to look to the National Park to replace these lost resources. This situation is repeated all around Lore Lindu as agriculture removes the forest resources outside the Park. Clearly an alternative approach is required. Either the resources must be made available outside the Park or controlled resource utilization must be allowed. In this case, the example agreements provided by the enterprises might be expanded on for larger-scale conservation results. Community-Park interactions can only be improved by the socialization of regulations on resource use.

conservation interests, but not at the total exclusion of the needs of local community members, which is a pervasive perception in and around most protected areas in Indonesia. The enterprises were a means of including community members and acknowledging that they have a stake in the resources found in and around the park. Indeed, before the park was established, many of these people had direct claims on the land and resources and are looking to resurrect those claims.

The project has slowly sought to work with community members to re-claim access to (though not ownership of) some of these resources. For some, this is not enough, and that is understandable. They want access to and control of the resources on which they historically have relied. As a result, some community members are re-entering the park, clearing land for coffee and cacao, and cutting trees (which creates more revenue than honey-hunting or butterfly farming), and they are working with advocacy NGOs to push tenurial agendas. And TNC is adapting its strategy to see where it can fit in these changing conditions.

The value then, is in the learning, in the advances made in working with communities, in the advances made in access rights to resources in and around the park, in the growing government acknowledgment that local communities can play a role in park management, and in the advances in designing strategies more appropriate for conditions on site. The project has generated experiences and lessons learned, and has been straightforward about reporting those limitations in a variety of fora. These have proven very valuable and instructive. It was worth the investment.

Villagers repeatedly question the illegal extraction of forest resources by outsiders, and even forestry staff. How can we enforce regulations at the village level unless commercial extraction is rigorously controlled? This is essentially an external factor, and depends on the quality and motivation of Park staff. At the management level this has been improving across all of Indonesia, and needs to be continued at the level of the field staff.

LOOKING TO THE FUTURE

Plans for the future include maintaining support for the current enterprises at a gradually reduced level and maintaining training opportunities, particularly in enterprise management. Enterprise development will remain one of the conservation tools available and we will draw on the experiences of staff and villagers to build up other enterprises where conditions are appropriate.

Story: Duncan Neville, Sugiyani, Marius Ladasi, and Ikhsan Mentong.

Duncan has previous experience in butterfly farming with communities in the Arfak Mountains of Irian Jaya. Sugiyani is a forestry graduate from Hasanuddinn University, Ujung Pandang. Marius thinks that the natural environment should come first. Ikhsan is a dab-hand at village meetings stretching into the small hours.

BCN Commentary: Bernd Cordes, Senior Program Officer, Jakarta.



Killing Butterflies in the Name of CONSERVATION

NANCY BARON

Ranching birdwing butterflies on the perimeter of a nature reserve has become a foundation for the local people's financial self-reliance — and it is helping conserve these endangered species.



What's Happened Over the Past Year?

Local Effects of the Asian Economic Crisis

The Hatam people traditionally live day-to-day and understand a market as a physical place where fruit, vegetables, fish, meat, and other goods are taken and exchanged for cash. The concept of a "world market" that is not a physical place and where payment is not received immediately is difficult for them to understand. Nevertheless, the Asian economic crisis and the uncertain economic and sociopolitical conditions in Indonesia in 1998 had a big impact on the butterfly ranching efforts. Total exports and domestic sales decreased this year. Only U.S. \$21,934 was earned through exports, and just U.S. \$845 from domestic sales. Compare these figures to 1997, when U.S. \$38,966 and U.S. \$8,786 were earned from exports and domestic sales, respectively. As a result, butterfly ranching in 1998 was no longer the main source of family income for Arfak communities. Instead, it became an activity that supplied some additional cash income for families registered with the Ranching Groups.



ARFAK MOUNTAIN
NATURE RESERVE,
IRIAN JAYA,
INDONESIA



PARTNERS:

- .. YAYASAN BINA LESTARI
BUMI CENDERAWASIH
(YBLBC)
- .. UNIVERSITY OF
CENDERAWASIH
- .. WORLD WIDE FUND FOR
NATURE-INDONESIA
PROGRAMME
(WWF-IP)





Making Sense of Complex Data

YBLBC and BCN are still analyzing these numbers and their impact. While it is clear that cash income from butterfly sales ended up being a smaller proportion of household income this year, it is not entirely because of the economic crisis. In part, it's due to the fact that the same social and local enterprise structures used to establish the butterfly business and the new "can do" attitude that the local people have gained have led them to diversify into producing other agricultural goods. For example, a number of Hatam households are now augmenting their own food supplies through village fishponds.

In addition, the lower dollar values in export sales in 1998 are partly the result of difficulties in obtaining necessary export permits from the Indonesian government, a slight fall in the number of orders placed by overseas customers, and the fact that, because shipping costs must be paid in dollars, it is now very expensive for YBLBC to send butterflies to overseas customers. The connection between all these factors and the economic crisis is still not clear.

Finally, because the price of butterflies is quoted to the customer in dollars, not rupiah, the cost in dollars to purchase butterflies has remained fairly constant even though the rupiah went through a rapid devaluation. Had the number of orders and the dollars received in 1998 been similar to 1997, YBLBC would have received a financial windfall in rupiah terms that could have put the enterprise into the black for the first time. Unfortunately, this did not happen. An analysis needs to be done to determine why.



John Parks

The Asian economic crisis and the uncertain economic and sociopolitical conditions in Indonesia in 1998 had a big impact on the butterfly ranching efforts.

We now realize that the butterfly enterprises alone cannot and never will be capable of totally sustaining the Arfak population of about 15,000 Hatam people. Nonetheless, the organization of the butterfly enterprises has served as a catalyst for the development of other income-generating activities which do not encroach further upon the forests.

Profile of Butterfly Ranching Increases

Throughout the year, people came to us asking if they could learn how to farm and conserve butterflies and, at the same time, increase their family incomes. These people included government workers, students, those from the lowest socioeconomic levels, and even tourists visiting the area.

Strengthened Financial Capabilities and the Creation of a For-Profit Firm

The first ever audit of YBLBC and the enterprise was performed in May 1998 by a public accounting agency from Jakarta. As a result of the first audit in 1998, YBLBC staff and YBLBC as an institution benefited from training in and knowledge

of new financial management methods. The second audit, planned for October/November 1998, was delayed as a result of unrest in the Irian Jaya region, and was rescheduled for January 1999.

In April 1998, YBLBC legally registered a for-profit firm called PT. Bina Lestari Bumi Cenderawasih (PT. BLBC). The communities (those active in the butterfly ranching enterprise and other income-generating activities) will eventually own this company. Over the years and with the assistance of YBLBC, they saved Rp 45,000,000 (U.S. \$5,422) in various bank accounts. This money will be used to purchase direct shares in the business on a group and/or individual basis. These purchases will be phased in over the next three years.

With the creation of PT. BLBC, it will now be possible to complete all export procedures directly between PT. BLBC and the relevant Indonesian government authorities, rather than going through PT. Inhutani II (a quasi-government trading agency based in Jakarta) as YBLBC was forced to do for the past several years. This change should help to streamline what is still an unwieldy permitting and exporting process.



A Note on Terminology

As discussed in the Lore Lindu story [#9], butterfly ranching involves establishing foodplant stations (usually in forest gardens) with plants that the butterflies favor, and then harvesting the offspring that are laid at those stations by wild individuals. Butterfly farming involves collecting wild individuals and then breeding them in cages.

PROJECT OVERVIEW

What's at Stake?

Arfak Mountains Nature Reserve (AMNR), one of Irian Jaya's last enclaves of lowland rainforest and montane moss forest, is home to rare and endemic tree kangaroos, bandicoots, birds of paradise, hornbills, and bowerbirds. But perhaps the most spectacular local animals are the endangered, CITES-listed birdwing butterflies (*Ornithoptera and Troides spp.*). The indigenous Hatam people living in and around the remote reserve have limited alternatives for cash generation and, as a result, subsist largely on agriculture, forest garden cultivation and historically, poaching. In particular, birdwing butterflies were poached and sold through the black market with little economic gain to the local people and with no regard for the species' long-term survival.

What's Being Done About It?

In 1989, World Wildlife Fund — a local NGO, began working with the Hatam people to develop a butterfly ranching enterprise. The idea was to generate a sustainable source of cash income and engage the Hatam in the management of the reserve's resources. Six spectacular species of the birdwing butterflies are ranched at foodplant stations on the reserve's perimeter. Iridescently colored and about the size of teacups, birdwing butterflies are highly prized by collectors. Through butterfly ranching, villagers have become guardians of their wild "livestock," policing for poachers and marrying traditional ecological knowledge with scientific monitoring methods. The farmers, who are organized in 88 Ranching Groups representing some 1,300 active, individual members, now recognize that their livelihood depends on thriving wild populations. As a result, the project has increased their support for the survival of the larger reserve. Through the project, YBLBC, which took over project management last year from WWF-IP, has emerged as a strong force working with and for the Arfak communities on these and other issues.



Charitable Work or Business?

YBLBC is registered as a not-for-profit entity, whose mandate is to work with communities on socioeconomic and environmental programs. Its NGO status is not necessarily conducive for commercial ventures. Yet, YBLBC is also charged with the management of a for-profit activity (butterfly ranching) that happens to benefit the communities with which they work. There is, of course, synergy here. But there is also a kind of an organizational split personality. Should YBLBC's priority be to create a financially viable enterprise? Or should it assume that the enterprise is important simply because it generates revenue for local communities, and any shortfalls can be made up for with subsidization from the donor community?

YBLBC has taken two steps to deal with this split personality. It has rightly established a registered, for-profit branch of its organization, and it has worked hard to build its staff's financial skills through training from Johan Malonda & Rekan, a public accounting firm in Jakarta. The goal here is to separate the business records and books from the non-profit NGO accounts, thus eliminating a lot of financial confusion. Many of the BCN-funded organizations have faced this same dilemma. Because YBLBC existed for four years before BCN funding started, it is a bit ahead of the curve in actually dealing with the situation.

Monitoring Efforts Multiply

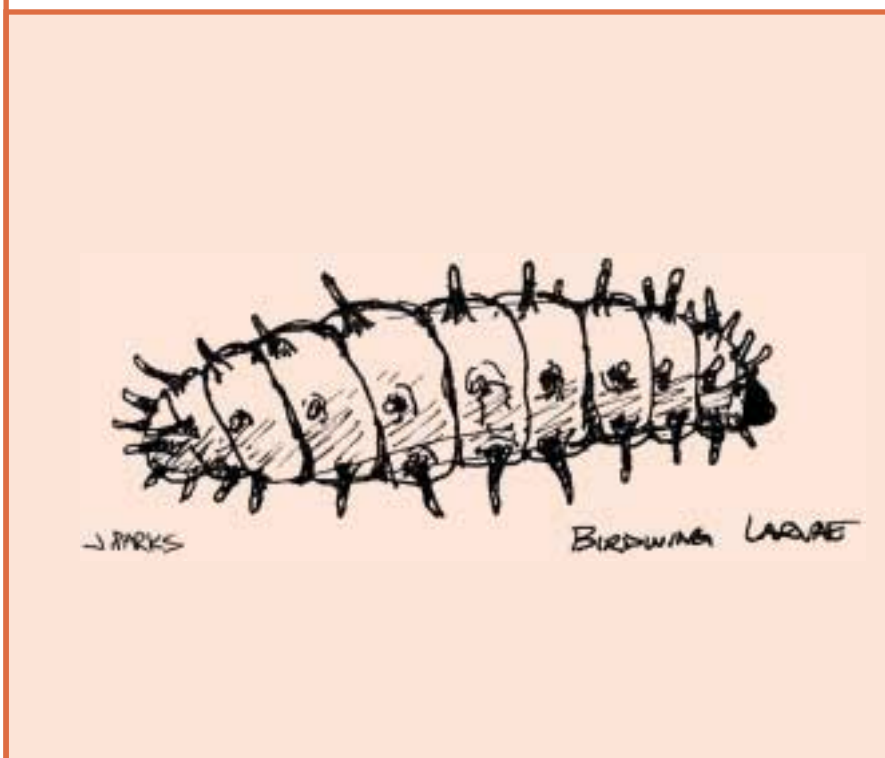
At the end of 1997, John Parks of BCN trained 30 community members in biological monitoring methods. Following this, in 1998, 12 biological monitoring groups were formed, each with 7 members. Now, entirely self-motivated, the groups have carried out their monitoring responsibilities on four occasions, implementing the practical monitoring methods in an effort to measure the project's impact. As a result of the training, there has been a noticeable increase in the communities' knowledge and awareness regarding conservation of their biodiversity and environment. We hope that there will be more and more groups implementing biological monitoring in the future. And from July to September 1998, a socioeconomic survey was conducted in the communities as part of the BCN-supported project by Nelson Mansoara, a sociologist from Sam Ratulangi University.

Now, entirely self-motivated, the groups have carried out their monitoring responsibilities on four occasions.

SUCCESSSES

Increased Incomes

Although in 1998 butterfly ranching was no longer the primary source of household income for Arfak communities near the reserve, the average per household earnings were higher than in 1997. In 1998, average earnings per



JOHN PARKS



household from butterfly sales was Rp 55,670 (about U.S. \$7) for 1,774 households. And in 1997, the average in 1,529 households was Rp 41,412 (about U.S. \$20 at 1997 exchange rates). Therefore, more rupiah went to more households in 1998 than in 1997.

Community Remains Calm Despite Crisis

The butterfly enterprise and the relationship that has developed between YBLBC and the communities had other indirectly related but positive impacts. For example, it lessened the effect of the political and economic crisis. The communities were not so quick to demonstrate and cause destruction as in other cities in Irian Jaya. Instead, people came to YBLBC’s office and said that they did not believe they should get too caught up in the political issues surrounding the Irian Jaya independence movement. They returned to their home villages and continued with their usual daily tasks and lives. This was a direct result of guidance given by YBLBC in Manokwari.

The butterfly enterprise and the relationship that has developed between YBLBC and the communities...lessened the effect of the political and economic crisis.

YBLBC Increases Outreach

YBLBC became a supervisory member of the Network for Trade of Indonesian Wildlife, established in Jogjakarta 24 - 26 August, 1998. The assembly included NGOs such as Kehati (the Indonesian Biodiversity Foundation), Walhi, Telapak, and WWF-IP. Various universities and the Forestry Department were also included. YBLBC was represented by Maurits Womsiwor. Sahat Saragih and Yoso Bumantoro (YBLBC senior staff) also attended a biodiversity-related workshop held at the University of Cenderawasih where they presented a

Local People Doing Monitoring

While a fair amount of biological and environmental research has been done in and around the reserve, the project’s lead organization, WWF-IP, did not create a monitoring program for the first two-and-a-half years of the BCN-supported program. And the general, research-oriented surveys that were implemented by WWF-IP staff neither included community participation nor directly focused on measuring the enterprise’s impact over time. There are various reasons why the biological monitoring got such a late start, but what is more important is what happened after John Parks and Steve Montgomery visited the site in late 1997. They conducted a workshop where community-selected villagers were trained in effective and practical monitoring methods. But, unlike what happens so often, the work did not stop when Parks and Montgomery left. Throughout 1998, community members implemented the monitoring plan and generated data that YBLBC and BCN are now able to use. In addition, they requested and received a follow-up training session from Parks on-site in August 1998. The monitoring continues, we are told, with great enthusiasm. This project is one of several that run counter to the conventional wisdom in Indonesia which states that community members cannot do relevant and useful monitoring and data collection.



A Difficult Exchange Rate

These figures require a bit of context. The exchange rate being used for 1997 is about Rp 2,300 = U.S. \$1, and about Rp 8,000 = U.S. \$1 in 1998. At the end of 1997 and throughout 1998, the rupiah fell dramatically as a result of a general economic crisis in Indonesia. As a result, in dollar terms, it appears that the value of the butterfly enterprise to a household fell dramatically in 1998, while in fact it rose in absolute rupiah values (Rp 41,412 to Rp 55,670). It could be argued that inflation in Indonesia eroded this value, even in rupiah terms. But inflation did not really have an impact on Irian Jaya until late 1998, especially in those small economies that have little reliance on cash income and are fairly self-sufficient for food such as the Arfak communities. As a result, it is probably safe to agree that the rupiah value of the butterfly enterprise did, in fact, increase per household in 1998. As inflation catches up in 1999, however, and items like pots, pans, cooking oil, and the like become more expensive, even the Arfak communities will be affected.

Permitting Blues

A ban on all exports by CITES combined with the lack of a permit to sell non-CITES-listed butterflies and insects, could be fatal to the butterfly ranching business. Such a ban might be imposed in 1999. As mentioned, YBLBC and the local communities are working to diversify their sources of cash income into agricultural products, and they intend to use PT. BLBC as a marketing arm. But these small businesses need time to develop. Meanwhile, the butterflies create much of the capital needed to nurture these new activities. In addition, if

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paper entitled "The Benefits from the Reserve and Butterflies in Arfak Mountains in Manokwari."

CHALLENGES

Permit Problems

For each order we receive, it usually takes two to three months to get CITES permits to market and export birdwing butterflies. Because of this, we have appealed directly to decision-makers at the Forestry Department by describing explicitly YBLBC's program, its intent to increase family incomes for Arfak communities, and its efforts to help the Indonesian government raise community awareness about environmental conservation. We hope that the time needed to get the export permits/licenses will be reduced to a maximum of two months.

The Forestry Department has illogically insisted that YBLBC obtain permits to sell unprotected, non-CITES listed butterflies and insects. They insisted that this license be held by YBLBC and not PT. BLBC, even though PT. BLBC also has as a mission the improvement of household economies in the Arfak communities.

As of this writing, our application to the Forestry Department to permit us to ranch and sell non-protected butterfly and other insect species has not been answered. This silence is in spite of the fact that the application was submitted twice and YBLBC was told that the permit would be issued in January 1999.

The greatest risk we face comes from the international CITES authorities. They might in the very near future ban the export of all CITES-listed species from Indonesia following a review of the current trade and protection of wildlife from Indonesia. This would mean that we must rely solely on the sale of non-CITES listed butterflies and insects, for which we do not hold a permit, and domestic sales of CITES-listed species, even though the domestic market is very small and does not generate a lot of revenue.

The greatest risk we face comes from the international CITES authorities. They might in the very near future ban the export of all CITES-listed species from Indonesia.

Shipping Woes

The express mail service (EMS) in Manokwari is not professionally managed or reliable. Because of this, several export packages have been badly damaged, and on three occasions the package simply never made it to the customers' doorstep. Since 1997, we have been forced to use the EMS services in Jayapura, even though this is more costly because a staff member must actually hand-deliver the package of butterflies to Jayapura first.

Maintaining Communications Is Costly but Essential

Another difficulty is building "active communication" with the communities. To keep this communication channel going, we must spend a lot of the enterprise's financial and human resources employing 12 motivators from the local communities and holding resource-intensive monthly meetings with Ranching Group leaders.

When the enterprise was first conceptualized by WWF-IP, it was done on a strictly commercial basis, but WWF-IP also provided some 60% subsidization. Now that management has been transferred to YBLBC, this is not sustainable because YBLBC does not have the funds to subsidize the enterprise.



JOHN PARKS



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the butterfly enterprise folds, the communities' trust and goodwill — which is already being tested by Indonesian government claims that Arfak communities have no rights to utilize the reserve's resources—will be strained even further.

If a ban is imposed on YBLBC's legal trade in these CITES-listed birdwing butterflies, it would have a very important, unintended effect. In short, while CITES would impose the ban in the name of conservation, it would actually create incentives for an increase in illegal birdwing butterfly sales. YBLBC already faces a gauntlet of permitting obstacles to make each sale of birdwing butterflies. But they do it, and they do it legally. This means a lot to the majority of collectors and customers who also have an interest in sustainable use and conservation. Unfortunately, illegal and unsustainable capture of these butterflies has survived despite the best efforts of YBLBC and the communities. If a ban were imposed, this illegal trade would thrive. These illegal sellers, ironically, face far fewer difficulties and expenses in trading their product because they operate outside of the permitting process, and, if caught, they usually manage to pay a relatively small, well-placed and surreptitious fee to circumvent local rules and regulations and continue with their business. At worst, they will have their product confiscated, but they know very well that it is only a temporary setback. They just try again and next time they have a better than even chance of not being stopped. YBLBC staff and community members are well aware of this frustrating situation. If a ban is imposed, all agree it would be counterproductive.



Resource Rights and Wrongs

When the reserve was being demarcated in the late 1980s, the Indonesian government, WWF-IP, and the Arfak community leaders all provided input. (YBLBC was established later, as part of the agreement with community members to create a cash-generating activity to counterbalance the “fences” that were springing up and to ensure community cooperation). Over the past two years, an issue that has always been just below the surface has risen to create a lot of tension in the AMNR area. Community leaders and YBLBC believe that, when AMNR was established, it was not clearly stated that indigenous community members were barred from entering the reserve and utilizing its resources (for construction materials, hunting, food, etc.). Some community leaders assert that, if it had been clearly stated, they would never have agreed to set up the reserve in the first place. So, there is a lot of tension between the various players — the Department of Forestry, YBLBC, WWF-IP, the communities, and others — and the question has yet to be resolved. There is, of course, much more to this story, but it is this misunderstanding that in part prompts YBLBC to focus on this absolute need for “active communication” and a re-assertion of traditional resource management and use systems in the Arfak Mountains today. The issue of communication is one that has had a great impact on many of the projects BCN supports — especially communication among the implementing agencies themselves, much less with the various agendas within a community.

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JOHN PARKS

When YBLBC took over management of the project and enterprise, we applied an enterprise design that had a mix of social and business goals. Priority has been given to helping the community understand why the reserve was established and what the benefits are to them of sustainably “ranching” its wealth of biodiversity. It required two years for YBLBC to patiently prepare the community for this type of perspective.

Perhaps the most important point to make is that the initiative to utilize and at the same time conserve and manage the area’s biodiversity came from the communities. And they have actively sought to protect their region from other people coming in to explore or exploit what they have.

We now know that, if in a position to establish a similar type of project or to continue with this one, we would begin by improving active communication with the communities, since they are the legal owners of the biological resources around them.

LOOKING TO THE FUTURE

In cooperation with Kehati, YBLBC held a workshop in Irian Jaya to establish a three-year plan and budget for further work with the Arfak communities living near the reserve. Attending the workshop were 40 Arfak butterfly farmers, community motivators, and group leaders. Also, three concept papers were presented by the Forestry Department, WWF-IP, and a University of Cenderawasih faculty member. The workshop was used to propose a series of projects to Kehati, which would be the primary funding organization for the next stages. Those proposals included "Reinstitutionalization of Igya Ser Hanjop" (from a local Arfak language roughly translated to mean, "traditional use and conservation of biodiversity and resources" by Hatam, Sough, and Meyah tribes), "Rehabilitation of Fallow Areas," and "The Development of Community-based Tourism." Those proposals were also presented to a wider, national audience in Jakarta by Yoso Bumantoro and Adolof Mandacan on 26 November, 1998. As yet, there have not been any firm funding commitments from Kehati for the three proposals.

Story: Sahat Saragih, YBLBC's managing director responsible for all project activities. Pak Saragih has lived in Irian Jaya and worked with Arfak communities for six years. Much of his work and experience is focused on traditional community training techniques and teaching math and physics at a Senior School in Manokwari.



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Perhaps more important for the BCN-supported projects is the issue of tenure. The YBLBC project is just one good example of several where unclear community land tenure arrangements or control/access to resources exists. While community tenure is not alone a sufficient condition for conservation to happen at any given site (as demonstrated across the border from Irian Jaya in Papua New Guinea), it does have an important impact on stewardship and a community's commitment to sustainable use and management. In the Arfak Mountains, these clans and communities have for centuries held a very clear understanding of their reliance on the forests surrounding them. Being barred from utilizing those resources through the imposition of outside rules and regulations that they have not "bought into" is an affront to the people living in and around the Arfak Reserve. In all likelihood, joint management (community and government) is the future for the resources in the area, but right now, this is well into the future. There is probably too much tension, too much historical inertia, and too much reluctance on the part of the Indonesian government or the communities to compromise on their "positions" to resolve the problem quickly. But a better understanding of the various values — commercial, environmental, social — that the area's resources represent, along with changes in Indonesian politics in 1998, might help to crystallize a future resolution to the issue.

BCN Commentary and Editing/Translation of Pak Saragih's Story: Bernd Cordes, Senior Program Officer, Jakarta.



Knowledge Is POWER



JOHN PARKS

Three coastal communities are finding that, although their tourism business is growing slowly, their monitoring is leading towards sustainable fisheries management.



What's Happened Over the Past Year?

In 1998 we saw an increase in the communities' capacity to address various issues related to marine resource management, conservation activities and ecotourism management. This is indeed a remarkable achievement, bearing in mind the economic and political turmoil that hit Indonesia at the beginning of 1998. Biak, the headquarters for this project, is one of the places most severely hit by violent political conflicts over the question of independence for Irian Jaya. Despite this turmoil, the communities have been able to focus on the issues of marine resource management and conservation in the areas where they live.

At the initial stages of the project we hoped to be able to attract, almost immediately, both domestic and foreign tourists to our ecotourism project. At this stage, however, we are not focusing as much of our attention on marketing externally. We have made this change because the current instability has led to declining numbers of foreign tourists to Indonesia and a steady decrease in the number of flights to Biak. So instead we shifted our target market to local visitors from Biak and surrounding areas, and focused on the improvement of our ecotourism facilities.



PADAIDO ISLANDS,
IRIAN JAYA,
INDONESIA



PARTNERS:

- .. YAYASAN RUMSRAM
- .. YAYASAN HUALOPU
- .. INTERNATIONAL DEVELOPMENT AND RESEARCH CENTRE (IDRC)
- .. CANADIAN UNIVERSITY SERVICE ORGANIZATION (CUSO)





The Down Side of Non-Stop Service

When the project was originally designed, Garuda (the Indonesian international airline) had a flight that went from Los Angeles to Honolulu to Biak to Bali. Many people coming to Indonesia on this route would disembark in Biak and stay a few days to dive, snorkel, or travel within Irian Jaya before continuing on to Bali.

Unfortunately, just months after the project began, the stop in Biak was canceled, and the flight went straight from Honolulu to Bali. This has had a serious negative impact on tourism in Biak, on the project, and on the small-scale dive tourism business. Expectations within the community had to be severely downgraded and the project's focus had to be changed and adapted. Despite frequent rumors that the flight would once again stop in Biak, this never happened. And at the moment, as a result of the economic and political troubles in Indonesia, the Garuda flight between Los Angeles and Bali has stopped altogether. To make matters worse, domestic flights to "remote" Irian Jaya are becoming less reliable and infrequent. These changes in the airline schedules have led to a need to look for alternate business strategies (focusing on domestic and local tourists) and longer-term planning (slowing down on infrastructure development and, instead, focusing on the community enterprise's optimal structure).



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Biak, the headquarters for this project, is one of the places most severely hit by violent political conflicts over the question of independence for Irian Jaya.

SUCCESSSES

Marine Resource Management by the Community

Involvement of the local communities in resource management began with increasing conservation awareness. This awareness then resulted in a number of local agreements and rules regulating the use of marine resources in the area:

- A ban was placed on blast and cyanide poison fishing.
- A village law (SK Desa) was drafted to protect local coral reefs as a tourism resource the law was validated by the local government (Bupati KDH Tk. II Biak).
- An agreement was reached with local fishermen on the use of only large-mesh nets.

A community mapping program took place toward the end of 1998. The purpose of the mapping program was to enable the communities to get a better understanding of the diversity of resources in the area, to delineate the boundaries of their areas, and to regulate resource use between various local stakeholders. The mapping program consisted of a participatory workshop explaining the concept and purpose of mapping, a field trip to Central Maluku to see participatory mapping implemented, and the mapping activity itself in the Padaido Islands, just off of Biak.

We are proud to report that as a result of this work, blast fishing by locals is at an all-time low; in fact, it is virtually non-existent at all project sites. As mentioned last year, monitoring of the project's socioeconomic and biological impacts began with baseline data collected in early 1997. Improvements can be seen in areas that were damaged in the past by blast fishing or by the earthquake and tsunami of 1996. Recovery is particularly rapid near Runi Island, the site of extensive earthquake damage.

We are proud to report that as a result of this work, blast fishing by locals is at an all-time low; in fact, it is virtually non-existent at all project sites.

Improvement of Ecotourism Facilities

During 1998, the project made serious efforts to continue improving ecotourism facilities. In Saba, we cleaned the beachfront, created a fence of painted posts and trees, and planted flowers and flowering bushes along the beachfront road. We also set up traffic control gates at the entrances to two beach areas, as well as a booth to collect entrance fees. To provide shade and shelter to visitors, we erected two pondoks (huts) at a picnic area and put several benches in place. We also set up rocks and posts along the part of the beach that is actively eroding, completed construction of a public toilet, and piped in a water supply. The result of all this hard work? A much cleaner and much more beautiful beachfront in Saba and a revenue and income-generating community business. This work was all accomplished with volunteer, community labor. In Wundi, locals also constructed a toilet and washhouse and installed a new rumpun (a fish-aggregating device) for local fishermen.



PROJECT OVERVIEW

What's at Stake?

The Padaido Islands are the site of some of the world's most biologically diverse coral reefs. The reefs harbor over 95 coral species and 155 fish species that provide food and income to the people who live there. But destructive fishing practices that use explosives and cyanide to scoop up the dwindling fish stocks are destroying the reef ecosystems on which the fish depend. The area is also being affected by large-scale institutional-style tourism development that excludes the participation of local communities. And if this were not enough, in February 1996, just as the project was getting underway, a large tsunami (tidal wave) struck the islands, destroying large portions of the reefs and the local village infrastructure.

What's Being Done About It?

To deal with these problems, Yayasan Rumsram (based in Biak, Irian Jaya) and Yayasan Hualopu (based in Ambon, Maluku) are working with local communities at three sites: Saba, which is on the main island of Biak, and Wundi and Dawi, which are on the nearby Padaido Islands. The project is designed to help the local communities establish small-scale ecotourism business that will attract benefits from tourists who want to see the wonders of healthy coral reefs and stay in a rustic community setting. These tourism initiatives were designed help offset losses of income that result from cutting back on unsustainable fishing and marine resource harvesting. These enterprise efforts are being combined with education and awareness programs about marine ecology and management that are designed to supplement existing local social institutions. As a result of the project, community members are gaining a greater appreciation for the long-term impacts of meeting their short-term needs through these destructive fishing practices. The project has also introduced FADs (fish-aggregating devices) in an effort to help take some pressure off the reefs. And community-based monitoring has placed accountability and an understanding of cause and effect into local hands.



Big Neighbors

Marauw is a 200-plus room, 4-star hotel located just beside Saba village. It opened four years ago when projections for foreign, marine-based tourism were high. The project and Saba village members have had an “up-and-down” relationship with the hotel owners (mostly influential outsiders) and managers. On the one hand, several Saba villagers have been employed by the hotel, and there is a possibility for cooperation and synergy between the experiences the two businesses can offer tourists coming to Biak — luxury hotel rooms, dive tourism, and in-the-village overnights. On the other hand, the communities’ perspective is that the hotel has tried to infringe on their rights to access and manage resources.

Schedule of Beach Entrance Fees, Saba (U.S. \$1 = Rp 8,500)

<u>Type</u>	<u>Fee</u>
On foot	1,000 Rp per person
Motorbike with passengers	2,000 Rp
4-or 6-wheeled vehicle with passengers	5,000 Rp

During the period 14 September to 28 December 1998, Sunday traffic amounted to 72 motorbikes and 179 larger vehicles. We collected Rp 416,500 (U.S. \$49) of which Rp 162,800 (U.S. \$19) was re-invested in upgrading facilities, for medical assistance to one of the group’s members, for contributions to a funeral and a birth celebration, for a loan to a group member, and as a contribution to the church Christmas fund. The beach-fee collecting group has a savings account in the BPR bank (a “peoples bank” run by The Foundation for Entrepreneurial Initiative Development in Irian Jaya). They have saved Rp 282,000 (U.S. \$33) to date.

The result of all this hard work? A much cleaner and much more beautiful beachfront in Saba and a revenue and income-generating community business.

In addition to beach cleaning, English classes have begun in Saba. The community members have also started gathering local history and stories as a resource for tourism promotion and public education. Young people in Saba have also organized a music and dance troupe which has selected and practiced a number of traditional dances for presentation to tourists. Using costumes borrowed from Opiaref (a nearby community also involved in the project), the dancers and musicians already have performed twice at the Hotel Marauw.

As an example, in February 1996, a large earthquake struck 60 kilometers south-east of the Padaido Islands. This created a tsunami that reached all the way to southern Japan. On its way north it swept over several of the Padaido Islands (including Dawi, where the new pondoks built for the ecotourism business were destroyed) and hit Saba hard. As a result, the people of Saba retreated from their coastal homes and built new houses inland, fearing that the disaster could recur. The hotel now looks at this coastal area as “vacant,” even though the people of Saba still feel it is theirs. The hotel wants to take over the coastline and beachfront (including a spectacular reef system), and turn it into a hotel-managed marina that would, in all likelihood, exclude community access. This threat served as an impetus to move forward on a community mapping exercise and the establishment of a beachfront business by the people of Saba. The community members took the initiative to claim active management of the area, and were able to convince local government officials to approve it.



Enterprise Management

In terms of enterprise management, a new Tourism Management Body (TMB) was developed in Saba under the leadership of community organizer Salomi Mauboy. The TMB has a number of working groups led by volunteer coordinators, some of which have the potential to spin off as small businesses. In the past, it was thought that the kiosks (a sort of local cooperative created around a general store) would form the local nuclei of the future travel bureau.

As things developed, however, it became clearer that the TMB would, in fact, be the appropriate local arm of the future Travel Bureau, a proposed centralized travel office that will probably be located in Biak. Now that community organizers are in place in Wundi and Pasi and the project participants have witnessed the progress made in Saba under the TMB model, TMBs are planned for these two sites as well. Legal papers for establishment of the Travel Bureau will be processed by the Tourism Office in Jayapura after all three villages have clearly established local TMBs.

CHALLENGES

Increasing Income From Ecotourism

The ongoing challenge for the project is how to make the ecotourism activities financially viable. One major obstacle is the decrease in the number of tourists, which is linked to the political turmoil and to the declining transportation connections to Irian Jaya. So far, the cottages in the project sites have received visitors from many different foreign countries, but the numbers are small. We are, as mentioned, focusing on local tourists from Biak and surrounding areas. Cleaning the beachfront and developing appropriate infrastructure are strategies aimed at attracting those local visitors. This effort has proven to be successful as Saba community members began to earn income from local visitors coming to the beach in greater numbers.

Conflict of Resource Use

As we enter the third year of project implementation, there are still conflicts among various stakeholders regarding resource use. Developing collaborative

Making Use of Existing Institutions

In their work with the local communities, Hualopu and Rumsram used a multi-pronged approach that took advantage of existing community organizations. They fostered a savings ethic among community members, socialized the idea of community-controlled ecotourism, and developed basic skills and infrastructure. Weekly information sessions that include ecology lessons are held in church on Sunday. Village cooperatives, started with assistance from Rumsram and in collaboration with the church, are putting savings in the bank, which will be available as loans to local entrepreneurs. By working with these existing groups, the project was able to develop a greater degree of credibility within the community.

The Slower Pace of the Islands

While collecting beach fees at Saba is working well, ecotourism to the Padaido Island sites of Wundi and Dawi, located just a couple of hours by boat off the coast of Saba, is happening more slowly. As of the end of 1998, marketing was almost non-existent — even locally. Visitors must either hear about the Padaido guesthouse by word of mouth or know someone at Rumsram. Even though the project has produced a brochure, there seems to be some reluctance to advertise at the airport, local hotels, and restaurants, where occasional visitors inevitably land.

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In part, this reluctance occurs because the idea of ecotourism is still being “socialized” at the local level, and because infrastructure to bring more than the occasional visitor to the islands is still being developed. Arrangements for boat transfers, for example, to the guesthouse on Dawi, and for providing guests with cooks and guides, are still not well organized. Right now, visitors are encouraged to buy and bring their own food so people living on Dawi can cook it. For the business to progress, there needs to be greater emphasis on services and convenience for visitors. But because ecotourism as a local business is still relatively young, this will necessarily be a gradual process. The communities are still learning about what visitors want, how to divide labor and benefits among themselves, and how to arrange the logistics of attracting and servicing guests. In addition, individuals with the entrepreneurial initiative to improve the business are sometimes frustrated by others in the community who are not as willing to take necessary risks, but want to enjoy the financial benefits. This is a good example of the “free rider” problem found in several of the BCN-supported projects.

The project staff are quite aware of these shortcomings and are developing strategies to address them, nevertheless, as mentioned, they do not want to get too far out ahead of the communities. Their concerns can be summed up under “carrying capacity,” both environmental and social.

and constructive community, government, and private-sector relationships remains a big challenge. Whilst communities have begun to move toward more responsible ways of utilizing marine resources, the business community still ignores issues of resource use sustainability.

For example, communities have stopped using bombs and cyanide for fishing and, at the same time, started using large-mesh gill nets. The use of less destructive fishing practices is being implemented alongside the development of sustainable, small-scale ecotourism. The business community, on the other hand, continues to operate large-scale, government-licensed fishing vessels in the area and uses small-mesh nets. To meet this challenge, project proponents have been negotiating a conservation agreement with the government in an effort to guarantee the sustainability of the ocean’s resources.

Communities have stopped using bombs and cyanide for fishing and, at the same time, started using large-mesh gill nets.

ON THE CONSERVATION FRONT

The principle upon which this project was based is that conservation of the area’s coral reefs (many of which were badly damaged due to destructive fishing methods) might only be successful if communities had an alternative income-generating activity to fall back on. We were hoping that marine tourism might provide this income.

Now entering the third year of the project cycle, the marine tourism is not yet financially viable. Nevertheless, there is proof that coral reef destruction has been tremendously reduced. The reasons for this are the focus on the



JOHN PARKS

importance of environmental education and biological monitoring. Participatory biological monitoring to measure the project's impact is a key activity. The community has been directly involved in developing baseline data and in monitoring both the project's biological and socioeconomic impact. Biological monitoring is carried out every six months by local community members and the Yayasan Hualopu monitoring team.

Participatory biological monitoring to measure the project's impact is a key activity.

As mentioned last year, Yayasan Hualopu's biological monitoring team held training workshops in Saba to convey basic information on coral reef ecology and monitoring methods. The enthusiastic trainees learned how to estimate percentage of living coral cover and regularly practiced their snorkeling and observation skills.

In September 1997, the group was shocked to discover that some scientists had, without prior consultation, laid down a permanent monitoring transect on Saba reef. Unfortunately, the transect markers consisted of 68 heavy concrete blocks linked together by nylon line and balanced, in some cases precariously, along the very edge of the wave-exposed reef slope. The village observers noted with dismay that 54 of the blocks rested on top of living corals and a few had already started their destructive descent down the living reef slope. Recognizing the threat to the reef, and fearing what would happen once the windy season started, the villagers removed the blocks. They worked from a tiny boat and used their bare hands and simple snorkeling equipment — a dangerous exercise!

Overall, the monitoring activities are becoming less and less dependent on the Yayasan Hualopu and Rumsram staffs. Instead, community members themselves are starting to take the lead in the biological monitoring program. This has led to another project achievement: the establishment of a conservation group in Saba.

Coral Reef Monitoring

For the twice-each-year biological monitoring, the indicators measured are

- Garbage accumulation on beaches in Saba and Dawi, (where tourist pondoks are located);
- The percentage of live coral cover off the coasts of Saba, Wundi and Dawi;
- The number of butterfly fish species on the reefs off of Saba, Wundi, Pasi and Dawi (diversity of butterfly fish is an indicator of coral diversity); and
- The presence and growth of young coral (using permanent quadrants) off of Dawi.



External Threats

Many of the large fishing vessels in the area are from other, nearby islands. Most of these government-licensed boats overfish in the Padaido's waters because they have little or no vested interest in sustaining stocks for future exploitation — they will simply go elsewhere once the local supply runs out. The project staff and community members have been working very diligently and strategically to win government support to change policies, including enlisting the Indonesian Navy to help police poor fishing practices.



Measuring Success

While it's true the project — especially the enterprise component — has had its share of difficulties, it's also true that this project, one of the smallest in terms of total funding levels, has been unusually successful on two “fronts.”

First, this project has had genuine community input and active participation from the start. This does not, however, mean the communities have always reached consensus on project goals and implementation. Nor does it imply that there are no differences in resource use and regulation. But very active community participation has been present in project design, project adaptations, strategy-building, local policy-making and, significantly, resource-use monitoring. This project is one of only a handful where community members are truly engaged in socioeconomic and, especially, biological monitoring. Much credit should go to the communities and to their NGO partners and will continue to do so.

Second, in large part due to this genuine community participation, the project has had important conservation impact. The project has been able to demonstrate that conservation and, perhaps, even rehabilitation is occurring at specified reef areas as a result of project interventions and despite

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Monitoring results to date have shown no reduction in live coral cover where the transects are located, and, in fact, have shown evidence of regrowth in areas previously damaged by blast fishing and the February 1996 earthquake.

Fisheries Data Collection

Seventeen fishermen collect fish-catch data from the four fish-aggregating devices located at Dawi and Wundi. They submit the data to a central recorder, who then transfers the data sheets to Rumsram field staff. In addition, a number of individual fishers fill out data sheets recording their catches from various reefs. Input from other fishers is also received, but tends to be more sporadic. Data collected include date, fishing method, number of fish caught, species, size of fish, and location. The gathered data is being analyzed by Dr. Irene Novaczek (a CUSO volunteer working in Yayasan Hualopu's office) to see if there is a shift from reef to pelagic species. Data collection was sporadic over the period up to October 1997 owing to fishermen being employed in a government house-building scheme. Christmas activities also had a negative impact on the consistency of data collection.



NANCY BARON

Monitoring the Shellfishery

Daily shellfish catches (the total number caught of each different species) are recorded at Wundi (five samples) and Dawi (two samples). A program whereby women shellfishers will monitor their own catches is being developed for next year, after the women decided that they too wanted to learn about resource management.

Impact of Infrastructure Development

Direct observation of new infrastructure is conducted to check for obvious signs of negative environmental effects such as erosion and pollution. To date, no problems have been observed.

Marine Environmental Monitoring

At each of the three sites, local volunteers monitor seawater temperature and water transparency as indicators of environmental change resulting from external forces, including in particular, global climate change. Unfortunately, in Saba, data collection ceased when the person responsible moved away to find work in



late 1997. As of September 1998, a new monitor is in place. In Wundi, monitoring data appeared to be good and was used by Saba volunteers to plot graphs and discuss the value of monitoring. At Dawi, there was a problem with the water transparency data, indicating improper data collection. This problem is being worked on. Also in 1998, the conservation group in Saba began monitoring their reef themselves by swimming across the reef at weekly intervals and using the hand-waving test to check for sedimentation in the area of permanent transect S1. This is the area where sedimentation has been most prevalent.

LOOKING TO THE FUTURE

During the three-year project cycle, our greatest achievement has been building awareness in the communities about conservation issues and the sustainable use of marine resources. Even though the BCN-funding period is approaching its end, there are numerous related programs already planned by the communities and Yayasan Rumsram for the area. Community awareness of conservation issues and their direct involvement in resource management is the basis for a three-year follow-on program: "Development of a Small Island Management Model" which will be funded by the Indonesian Biodiversity Foundation (Yayasan Keanekaragaman Hayati). The approach and design are based on the fact that the Biak and Padaido Islands are very small but are, at the same time, affected by large-scale resource extraction. A strategy for small island management must, therefore, be developed to ensure resource sustainability.

In the future, we will expand the number of sites where we are working to include all of the Padaido Islands and the major parts of Biak. We intend to address both marine and terrestrial issues, but will continue to focus on introducing non-destructive fishing methods and increasing the communities' capacity to manage an ecotourism project and business.

Conservation agreements and influencing policy changes on resource use will be two of our priorities. For this reason, participatory mapping will be a primary activity. It is our hope that with conservation agreements in place at the village level, the communities will play a lead role in spatial planning throughout the region.

During the three-year project cycle, our greatest achievement has been building awareness in the communities about conservation issues and the sustainable use of marine resources.

Story: Cliff Marlessy, with assistance from field staff in Biak and Ambon. Cliff is the Project Coordinator for the BCN-funded activities, and also works as a Program Officer for the Indonesian Biodiversity Foundation in Jakarta. He has extensive experience in conservation, development, and social advocacy throughout eastern Indonesia.

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all the setbacks, including the tsunami. A solid workplan — and the technical and financial support needed to implement it — exists for a three-year period after BCN funding comes to a close in June 1999. It is clear that this project has and will continue to contribute much to local marine conservation in Indonesia.

BCN Commentary: Bernd Cordes, Senior Program Officer, Jakarta, and Nancy Baron, BCN Consultant.

BIG Results From SMALL Enterprises



BCN STAFF

In the forests of Mindanao, community organizing and capacity-building can pay big dividends even when enterprises do not generate much income.



What's Happened Over the Past Year?

The following events, small as they may seem, are milestones in the community's struggle to improve their lives and their environment. This project has allowed the community to articulate its own interaction with the land, and at the same time provide a level of support that respects this relationship. As the community prepares for another phase in its growth towards self-reliance, a path has been set for other communities to follow, a path that is borne out of struggles that strengthen the people to face greater challenges beyond.



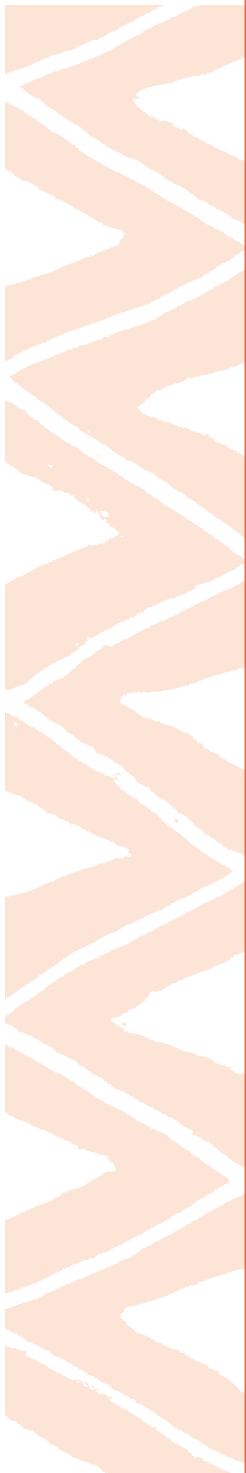
BENDUM, PANTARON
FOREST, BUKIDNON,
MINDANAO,
PHILIPPINES



PARTNER:

.. INSTITUTE OF
ENVIRONMENTAL SCIENCE
FOR SOCIAL CHANGE
(ESSC), FORMERLY
ENVIRONMENTAL RESEARCH
DIVISION, MANILA
OBSERVATORY (ERD)





BCN STAFF

CHALLENGES

El Niño

In the last year, a number of major events took place that had a significant impact on the community of Bendum. First was the long El Niño of 1998, which stretched the dry season from March into August. Although anticipated, the communities in the marginal uplands like Bendum had very few options in preparing for its onslaught. Hunger was the major threat to the community and since the people subsist on the resources of the land, the lack of rain meant a corresponding decline in food for the people. The community resorted to time-tested alternative food sources, mainly labu, a poisonous yam that they immerse in running water for three days to wash out the toxins. The community also turned to the government for food assistance in the form of rice subsidies from calamity funds reserved for the El Niño. The local government eventually responded on one occasion by directly releasing the rice to the community and not through the barangay (local government) which tends to redistribute the goods according to its own priorities. A major learning is that food production must be kept in the hands of the people. If cash sources are used to buy basic food, then the situation becomes unsustainable.

The long El Niño of 1998 stretched the dry season from March into August. Although anticipated, the communities in the marginal uplands like Bendum had very few options in preparing for its onslaught.

There were attempts at handicraft making as an alternative source of cash for food, but the dry heat caused abaca and other fibers to break in the weaving process. There was also intense pressure from lowland traders to harvest rattan in the area. The neighboring community of Bulonay was gathering rattan poles

into as far as Maasam in Agusan del Sur to be sold to these middlemen. The people of Bendum were well aware of what was going on in the neighboring areas and they did ask themselves how long they could hold back. But because of a community decision not to harvest rattan, so that depleted stocks can regenerate, the community stood fast until the rains finally came.

Because of a community decision not to harvest rattan, so that depleted stocks can regenerate, the community stood fast until the rains finally came.

Unfortunately, it often seems that nobody from the lowland towns knows the people in the mountains or sees them as being of any importance. And yet the mountains are the source of the Pulangi River, the nation's second largest river. Interestingly, the lowlanders seem to have undeclared expectations that the river and watershed will provide an unlimited water supply and illegal lumber and contribute to the broader weather balance of the central Bukidnon plateau.



On the Margin

A visit to the Bendum community reminds us that the Lumads of the area are one of the most marginalized sectors in Philippine society. Lack of basic medical services, education, and cash-generating activities places them at a great disadvantage over the more aggressive lowland migrants. As a result, ESSC had to make sure that the goals of the BCN-funded project were placed alongside the community's efforts to address other issues brought about by poverty, such as displacement due to encroachment, the selling of community land to incoming migrants, and maintaining peace and order.

PROJECT OVERVIEW

What's at Stake?

Bendum, a mountainside community, lies just below the cloud line and, when seen from a distance, appears as unoccupied, idyllic forest lands. But these lands are actually home to a community of indigenous Lumad people called the Bukidnon. Local community forestry survey teams have seen several species of woodpeckers, hornbills, and doves at the project site. The bleeding heart pigeon, although scarce in numbers, still survives in pockets. Despite the idyllic appearance, this area has been disturbed by militarized activities for several decades. For the Bendum, and the adjacent communities of Mahayag and Tawantawan, the last few years have been a test of endurance and of strained relations between the tribal Lumad communities, their environment, and lowland migratory communities. More than ever before, the Lumads' ability to protect their forests is jeopardized by physical, political, and economic threats including insurgency, land conversion, commercial mining, and forest fires.

What's Being Done About It?

Since 1995, the Environmental Science for Social Change (ESSC) group's Pantaron Forest Management project has worked with the Bukidnon in the three villages of Bendum, Tawantawan, and Mahayag. The project aims to conserve the biodiversity along the Pantaron Range by natural resource management, forest tenure, and enterprise development that empower the local communities. The project is working with the Bukidnon to try to improve their quality of life by marketing non-timber forest products including abaca fiber (a species of banana valued for its vascular fiber rather than fruit) and creating a small women's handicrafts cooperative. Specific activities over the past few years include: 1) planting and monitoring six community trial plots of wild abaca for eventual production and weaving of high quality fiber, 2) skills training and production of prototype handicrafts, 3) developing marketing links in the neighboring village of St. Peter, 4) starting community mapping of rattan and other natural resources, 5) selecting and training local forest guards in biological monitoring, 6) training community members as team leaders, and 7) socioeconomic monitoring including a survey of resource ownership, land use, oral histories, and kinship mapping to support Ancestral Domain claims.



Going in Circles

The Lumads and ESSC have an interesting way of looking at threats. They view them as cyclical rather than linear. This means that the threats are never really gone, but rather they come and go. Fire would be a good example as this threat reappears each time during the dry season.

Forest Fire

Another major problem posed by El Niño was uncontrollable fires. Forests, upland agricultural areas, and grasslands were not spared. Across the Pulangi River on the western face of the valley, large patches of forest showed the scars of burning. In Bendum, the communities took it upon themselves to control the burning in their area. Armed with sticks and determination, they managed to control the spread of a fire near the Manambulan River in April of this year. No further fires have occurred since then.

SUCCESSSES

Government Recognition

After years of conflict with a neighboring claimant who was supported by the local Department of Environment and Natural Resources (DENR) last June, the national office of the DENR approved the Bendum community's Certificate of Ancestral Domain Claim (CADC). This has finally given the community a sense of being recognized as stewards of the land they occupy. This certification gives them legal rights to reside, utilize and manage their forest resources. Mahayag and Tawantawan on the other hand are still negotiating with the help of ESSC, for the approval of their respective CADCs.

The DENR Certificate of Ancestral Domain Claim has finally given the community a sense of being recognized as stewards of the land they occupy.



BCN STAFF



But because the processing of their CADC was still unclear at the start of the past year, the community decided to explore alternatives that would grant them tenure over the land they were occupying. They identified DENR's Community Based Forest Management (CBFM) Program as a viable option. With very similar goals and objectives to the CADC, the CBFM program provided an alternative should the CADC fail, and a backup should it proceed. Now, even with the CADC approved, the community has decided to push through in developing a management plan using the CBFM's Community Resource Management Framework, which is a parallel process to the CADC's Ancestral Domain Management Plan. With these two programs side by side, the community is developing an integrated management strategy for the area, with participation of both its indigenous and migrant members. The challenge now is for the community to actually design and implement a modest yet functional livelihood operation that can serve as a buffer during hard times.

Community Changes and Growth

All resources used by the community are now monitored by the forest, water and land committee of the Tribal Council. In Mahayag and Tawantawan, the control comes directly from the Datu, the Lumad Chieftain. This is because these communities are smaller and still have not been able to organize themselves into committees or collectives. Extraction of all the resources, especially abaca, rattan, and baluyut, for the handicrafts does not damage the ability of the resources to regenerate and is non-destructive due to the respective growing properties of the plants.

Both men and women members of the community were exposed to various learning experiences from the enterprise activities. From 6 participants at the start of the project, there are now around 17 Lumad abaca growers participating in the project. Total capital investment of the project was 115,346 pesos (U.S. \$2,884) which mainly involved the purchase of disease-free corms from the neighboring province. Each grower makes around 638 pesos or (U.S. \$16) a year. Though small, this actually accounts for 22% of the average individual cash income per year. (Lumads basically rely on a subsistence economy that is hardly dependent on cash.) Participation in the abaca activities was with the understanding that they would share what they learned with others. Visitors coming to Bendum were often shown the abaca growing areas by the community.

Each grower makes around 638 pesos or (U.S. \$16) a year. Though small, this actually accounts for 22% of the average individual cash income per year.

A return to a practice of abaca growing helps take the strain from overextraction of remaining resources and from an overdependence on short-term returns gained from increasing pressure to clear more land for intensive agriculture.

Finding a Viable Enterprise

Rattan was proposed as one of the original enterprises of the project. This was, however, later abandoned after the community and ESSC jointly determined that there was not enough standing stock to harvest rattan on a sustained yield basis. The community was then able to gain legal control of the rattan resources by having the harvesting permit of a Cebu based company canceled on these grounds. The Lumads and ESSC estimate that it will take several years for the rattan stocks to replenish and are presently monitoring its regeneration closely.



Small Enterprises

These enterprises are still at the very early stages and have not yet generated large returns. Abaca planting is done by individual planters and has yet to reach a level of communal integration. The same goes for the handicrafts. In 1997, ESSC had to turn down an order by an NGO since the community could not produce the expected volume of mats.

This practice has created a buffer that has enabled the Lumads to assert their land use rights in the area. However, for this to be sustainable, much more has to come out of the diversity of relations with the environment. Conservation requires the development not only of policies, programs, and projects, but also an empowering of the social mechanisms by which communities become the managers.

In addition, ESSC is also encouraging the re-introduction of traditional weaving as a potential livelihood and a strategy to strengthen cultural integrity. As of now, the sales of these baskets, mats, and bracelets have been small with each of the 31 participating women averaging only 1 or 2 items for sale in a year.

Though both abaca growing and handicraft enterprises are only in the initial stages of development, both activities play a major part in the conservation process of the area. These enterprises for example have increased the community's awareness of the importance of land and the scarcity of its resources. As a result, the Lumads have formed forest and water committees, have stopped selling land to the migrants, and have improved their leadership skills. Another noticeable gain was the empowerment of the women, who now participate actively in the committees. This was made possible by their heightened understanding of their resources and the increased feeling of empowerment brought about from their sales of handicrafts.



BCN STAFF

Though both abaca growing and handicraft enterprises are only in the initial stages of development, both activities play a major part in the conservation process of the area.

Strengthening of Lumad Cultural Integrity

A significant change in the community is the ability to negotiate their way through conflicts to find solutions. The community's tendency before was to accept change passively either through rejection of their culture and total adoption of the lowlanders' way or by leaving the area. As a result we tried to empower the people, making all project activities highly participatory and involving the people in helping determine their futures through planning. In this way, the pattern was broken. About 90% of the Lumads in the Bendum community have been involved in various project activities.

Another event that further strengthened the cultural integrity of the community was the launching of the Binukid textbooks Magkinanau Kuy last July. These textbooks, a joint effort of ESSC with the community of Bendum, are a series of books that facilitate learning from the perspective of the Bukidnon culture, using their experiences of the world. They are now being used in the Cultural Empowerment Center in Bendum as a major tool in the education of the children.

One might find it rather difficult to see the relationship between textbooks and biodiversity, but in an effort to strengthen the community mechanisms for resource management it is necessary to strengthen cultural integrity, which is the foundation for indigenous management practices. Since biodiversity is a cultural relationship that mutually sustains life; efforts at strengthening the culture mean that relationships with the land and resources are likewise strengthened.

In an effort to strengthen the community mechanisms for resource management it is necessary to strengthen cultural integrity, which is the foundation for indigenous management practices.

One example can be seen in the changing practices regarding some of the wildlife in the forest such as the hornbills, doves, and pigeon. These birds are used by the community as their source of protein, but increasingly community members have come to understand the importance of their role in seed distribution and forest regeneration, a natural relationship that must be allowed to continue. The Bendum community Forest Committee as a result formulated a policy that prohibits hunting of dove species because of their cultural values. This basic sensitivity to life in the forest has been extended into the development of alternative education programs for the community.





Kaamulan

The most important event for the community has been its annual Kaamulan. This gathering of Lumads once a year has greatly helped in the strengthening of the Bendum, Mahayag, and Tawantawan communities. It has given the Datus from the neighboring province of Agusan and the Upper Pulangi mountain range a venue to discuss issues, share experiences, and develop a collective understanding of their response to threats.

LOOKING TO THE FUTURE

For conservation to be lasting, the web of relations of people, land, water, and life demands a deep understanding. These people have acknowledged this in holding tightly to their love of the land, even through such uncertain times. Cultural values and relations have been reawakened in an effort to protect the forest life and this has gone hand in hand with empowerment. The project has played a small but significant role, allowing people to revitalize their cultural expression, their clan relationships, and the broader daily discussion of their values, their needs, and their relations. The people value the forest and all its life. They need the forest for their way of living, but in changing times, it has been hard — socially and environmentally.

While the Bukidnon are improving their quality of subsistence, it would be naive to think of them as entrepreneurs. Traditionally, they are barterers, but today there is little bargaining of a familiar nature, so they just have to take what they can get. Cash is not primary, yet dealing effectively with external market forces is essential for their self-sufficiency.

The Bukidnon need to find interested parties who are willing to invest in the abaca resource's development so they can grow it on a large enough scale to make it a significant portion of the local market. The biggest challenge is to work with reality and not to be confined by the prism of project accomplishments that have a short lifetime.

The biggest challenge is to work with reality and not to be confined by the prism of project accomplishments that have a short lifetime.

The truth is coming through, that any effort to sustain biodiversity has to build on what people are already doing. It cannot be sustained if we fracture the social process with unreliable interventions. BCN's focus is "to collect information and to systematically use this to make better natural resource decisions, a process called adaptive management." Meanwhile, adaptive management in the forest, coming from the people, involves them adapting to the regenerative capacity of the forest and surviving the socio-political pressures while meeting at least their basic needs.



Any resource decisions coming from above must have adequate flexibility to allow the people to adapt them to their circumstances rather than become a further burden upon the community. Adaptive management as it occurs from below and above can be part of the one and the same social process as long as there is flexibility. Already there are adaptations seen in biodiversity conservation: recognizing that people cannot wear an entrepreneurial hat in three years and that biodiversity is not a taxonomic list but a cultural relationship that mutually sustains life together. It is essential that we reckon with a broader socio-environmental process that can sustain biological diversity — the vital life of our forest — against unpredictable markets and trade winds.

Story: The ESSC team. ESSC is a research institute that works with communities in effecting social changes that have a positive impact on the environment. Fr. Peter Walpole, S.J. (otherwise known as Pedro) provides overall leadership and coordination. ESSC humbly faces its responsibilities in opening up the necessary flexibility in the political and economic spheres of a broader dialogue within the countries where it operates.

The Wrong Approach and the Right Result

The BCN model, while recognizing the many ways of creating incentives for conservation, has stressed the enterprise approach and generation of benefits. In the Bendum case, it quickly became clear that an enterprise-based approach was not going to lead to conservation because the rattan and wild abaca resources were insufficient to support sustainable operations. It also became evident that any attempt to extract rattan by the community would exacerbate the tense standoff with the outside concessionaire holding a logging permit. In response to these problems, ESSC quickly modified the activities it had originally proposed. The redesigned activities focused on understanding and building on the community's perceptions and needs. Despite the lack of a successful enterprise, these activities seem to be leading to conservation.

BCN Commentary: Chuck Encarnacion, Program Officer, Manila, and Ganesan Balachander, Director, Manila.



13

NECESSARY But Not SUFFICIENT

NICK SALAFSKY

Successful ancestral domain claims provide a legal foundation for conservation; but it is not clear whether the enterprises and local organizations will survive in the long run.



What's Happened Over the Past Year?

The project started in 1994 and originally covered four areas, but in 1997, the project sites were reduced to three as a result of internal management issues at NATRIPAL, the main implementing organization. In the same year, a technical adviser was hired by the project to help NATRIPAL with project management and implementation. A new set of project staff was also hired to implement a redesigned project implementation scheme and the project's end was pushed back from December 1997 to March 1998.

One of the first major achievements of the project was obtaining the government-issued Certificate of Ancestral Domain Claims in 1996 and 1998. Known as CADC, this certificate grants indigenous communities the stewardship, use and management rights to their ancestral domains. It also provides the indigenous peoples the legal basis by which to secure the enterprise resource base against threats from wanton gathering and commercial exploitation.



PALAWAN ISLAND, PHILIPPINES



PARTNERS:

- .. NAGKAKAISANG MGA TRIBU NG PALAWAN, INC. (NATRIPAL)
- .. TANGGAPANG PANLIGAL NG KATUTUBONG PILIPINO (PANLIPI)
- .. INDIGENOUS PEOPLES' APOSTOLATE (IPA)

LOCAL ASSOCIATIONS:

- .. SAMAHAN NG MGA TRIBU NG KAYASAN (SATRIKA)
- .. CAMPUNG IT MAPANGARAPAN IT PALAWANO (CAMPAL)
- .. PINAGTIBUKAN IT PALAWANO (PINPAL)





Working in Partnership

The indigenous peoples' community must act decisively in getting complete support from the various government agencies and NGOs in order to make their ADMP succeed. On the other hand, the PSTFAD and the local government units must have the attitude that their jobs are not just to monitor and evaluate these indigenous communities, but to directly assist them in whatever technical and related assistance they may need in the course of the ADMP implementation. Only through such a partnership will biodiversity protection become a reality.

One of the first major achievements of the project was attaining the government-issued Certificate of Ancestral Domain Claims in 1996 and 1998.

Another significant achievement of the project was the drafting and making of the Ancestral Domain Management Plans (ADMP) in 1997. These documents spell out how the indigenous tribes will manage their ancestral lands including extraction, utilization, rehabilitation, protection, and conservation of the resources within the rainforests. The ADMPs also include traditional and customary laws and indigenous practices covering all aspects of the lives of the indigenous peoples. These plans also serve as guides in their social dealings such as resolution of conflicts among different indigenous people's groups and between indigenous peoples and migrants, as well as marital problems and divergent behaviors.

In order to carry out and implement these ADMPs effectively, the project invested in the development of the necessary social organizations. This involved the revitalization of the indigenous people's local associations through the election and training of new leaders. Together with the project staff, community members were trained to conduct the bio-monitoring survey of their resources and taught the various laws necessary for them to protect their ancestral domains (paralegal training). These same indigenous peoples were later deputized by the local government as forest guards tasked with monitoring and apprehending illegal gatherers.

Lastly, institutional development was conducted at the federation level. Various trainings were given to NATRIPAL (United Tribes of Palawan) to develop the federation's capability to provide the necessary project support, market linkages, organizational networking, and advocacy. Likewise, the project staff coordinated their activities with the Provincial Special Task Force on Ancestral Domain (PSTFAD) composed of the local unit of the Department of Environment and Natural Resources (DENR), government agencies like the Palawan Council for Sustainable Development (PCSD), Office of the Southern Cultural Communities (OSCC), Department of Agriculture (DA) and the Department of Agrarian Reform (DAR), and indigenous peoples — NGO representatives, in responding to various issues at each project site.

Official Awarding of Punta Baja and Campung Ulay CADC

The signing of the Punta Baja and Campung Ulay Certificate of Ancestral Domain Claim happened in October 1997. But the official awarding was conducted in February 1998 in the municipality of Rizal. This awarding ceremony is as important as the Department of Environment and Natural Resources approval, since the indigenous peoples had no legal justification for managing their ancestral domain until they were in possession of the actual document.

Positive Ancestral Domain Management

Though the BCN-funded project closed officially in March 1998, the NATRIPAL project staff, hand-in-hand with the communities' local associations, are still continuing the activities set forth by the project and they are now in the process of implementing their ADMP.

Several common ADMP policies are presently being asserted.

- The local associations are overseeing the overall management of their ancestral domains.
- The ancestral lands are being used in accordance with the provisions stipulated in the ADMP.
- Outsiders (non-indigenous individuals, groups, and companies) are not allowed to use the resources within the ancestral domain without the approval of the community. They are most vigilant over their right to informed and prior consent regarding resource use.
- The set penalties, fines, and punishments for those who do not abide by these policies are being implemented in accordance with the provisions in the ADMP and their customary laws.



PROJECT OVERVIEW

What's at Stake?

The island of Palawan is often described as the last natural frontier in the Philippines. Over half the island is still forested providing habitat for 232 wildlife species including the pheasant peacock, mouse deer, bear cat, Palawan hornbill, and blue-naped parrot. Its rainforests are also the home of the Tagbanua, Batak and Palawan indigenous communities whose territories, natural resources, and cultures face growing threats from unregulated exploitation of resources, commercial activities, and rapid encroachments by immigrants from other parts of the country.

The three BCN-funded sites in Palawan are located in areas where the biodiversity is beginning to show destruction due to these external threats. Cayasan, located in Puerto Princesa City, has a total land area of 7,530 hectares and is occupied by the Bataks and Tagbanuas. It is adjacent to St. Paul National Park — one of the most notable protected areas in the country. Campung Ulay (7,000 hectares) and Punta Baja (8,092 hectares) are located in the Municipality of Rizal, Southern Palawan, where the Tagbanuas and Palawans reside within the bosom of Mt. Mantalingahan Range, the highest peak in the country.

What's Being Done About It?

To meet these threats, the project partners came together with the goal of promoting biodiversity conservation at the three project sites through sustainable use and trading of rattan, almaciga resin, and wild honey. Aside from the enterprise development of these non-timber forest products, the project also exerted efforts to ensure economic sustenance for the indigenous peoples while conserving biodiversity through land tenure, resource management, and capacity-building. In particular, the project team has worked with the indigenous groups to try to help them establish legal rights to their traditional forest resources.



Baby Steps

In the previous year, the indigenous peoples through NATRIPAL made small amounts of income from the sales of honey, rattan and almaciga. This shows that the indigenous communities were taking their initial steps in establishing their NTFP community-based enterprises. Therefore, it is crucial at this juncture that NATRIPAL be able to source additional funds as capital that would allow the local associations to expand their trading activities. Such expansion would result in greater community participation and strengthening of the indigenous peoples' hold and control on their resources. However, one major constraint to the expansion of the enterprises is that some of the communities are beginning to seriously deplete their stocks of the various forest products. It is not clear how the local enterprises will deal with this problem. It is also not clear whether these enterprises will be able to maintain themselves in the face of difficult competition from established middlemen dealing in forest products.

Fire

This is yet one more example of a BCN project having to deal with major natural disasters.

In their determined efforts to enforce the above existing policies, the three communities, together with NATRIPAL and PANLIPI, are presently pursuing cases of illegal non-timber forest product extraction against gatherers and encroachment by outsiders into their ancestral domains.

The three communities, together with NATRIPAL and PANLIPI, are presently pursuing cases of illegal non-timber forest product extraction and encroachment by outsiders.

NTFP Enterprises Continue Despite Challenges

In terms of trade, the three communities recorded no sales during the first quarter of 1998 due to the drop in product prices. By May however, the Punta Baja community was able to sell P36,000 (U.S. \$900) worth of rattan. The following month, Punta Baja and Campung Ulay struck a deal that is still going on with traders in Manila involving approximately P80,000 (U.S. \$2,000) of almaciga resin. Cayasan, on the other hand, linked up with several Manila-based NGOs that provided marketing services for their honey. This is the first time that the indigenous peoples are attempting to engage in NTFP trading on their own.

Forest Fires

The Municipality of Rizal was one of the areas most devastated by the Palawan forest fires that raged from March to April 1998. Aggravated by the El Niño phenomenon, fires that were ignited by farmers in lowland areas in Barangay Bunog (two barangays away from Punta Baja project site) burned out of control and spread to the uplands. Though unconfirmed, it is estimated that around 3,000 hectares out of the 8,000 hectares of the ancestral domain of Punta Baja project site were destroyed — mostly falcata, mahogany trees, rattan areas, and low-lying farmlands. The fires from Punta Baja eventually spread to the adjacent Campung Ulay project site where it burned approximately 100 hectares of forest and agricultural lands including portions of the almaciga and rattan resources. Only the collective efforts of the local people from both communities, under the leadership of PINPAL and CAMPAL and the project staff, prevented the fires from causing more damage. The local people said they would wait for the rains to undertake massive reforestation work. The indigenous communities of Punta Baja and Campung Ulay will have to draft new ADMPS, taking into consideration their devastated resource base. Cayasan, on the other hand, was spared from the forest fires as the indigenous communities were able to contain the slash and burn activities within their domain.

LOOKING TO THE FUTURE

It is encouraging that the local associations are beginning to develop their capability to engage in trade on their own. But, the initial revenues from these

economic activities are still relatively small. It is estimated that the indigenous peoples will still sell 70% of their forest products to traditional outside traders rather than pass them through their communities' local associations. If the ADMP is to have any effect, the local associations must be able to capture a significant part of the forest product trading at their sites. This means having sufficient capital to compete with the traditional middlemen and a ready market to absorb the volume of forest products that will be sold at the Area Servicing Units of the local associations. Furthermore, the leaders as well as the project staff must have continuous training on enterprise work to strengthen and enable them to survive and meet the challenges posed by the capricious and ever-changing market and capitalist economy. Continuous assessments and timely interventions must be undertaken in order to become professionals in these endeavors. And lastly, a collective political will among the indigenous people must be developed to make their ADMPs succeed, as well as to show the world that the right way to development is through the respect of Mother Earth and the indigenous peoples' way of life.

The initial revenues from these economic activities are still relatively small.





A Project at a Crossroads

It is easy for any project to say that it will get rid of the "middlemen" so that the community can realize more profits. But middlemen, for better or for worse, perform many important functions that the people rely upon for survival. More often than not, they are the community's only avenue for credit and are a more lasting source of cash than externally funded projects.

As an alternative strategy, the project staff, began networking with the private sector as early as the last quarter of 1997. Their goal was to raise additional capital needed to continue the development of the communities' NTFP trading activities. The result was limited but encouraging.

Having demonstrated their strengths in formulating policy and community policing, the indigenous peoples and NATRIPAL should now be reflecting and thinking of ways to improve the standing stock of their resources by establishing nurseries, stockpiling seeds and seedlings, reforestation and planting, and implementing zoning strategies. Initial assessments from the bio-monitoring surveys indicate that the non-timber forest product stocks are no longer that plentiful. BCN is encouraging its Palawan partners to continue with the analysis of the biodiversity inventory and to bring back to the communities the results of these inventories for proper actions. This is crucial in further evaluating the sustainability of their Ancestral Domain Management Plan and the forest product gathering enterprise.



There is also a need to undertake education and information activities to let all those involved in extraction and utilization of the forest products become aware of the urgency to rehabilitate, conserve, and protect the biodiversity of the project sites.

This brings forth the questions of how strong these local associations are and whether NATRIPAL can sustain the assistance it is providing to these communities. The indigenous peoples at this point still do not possess the necessary skills to engage in trade by themselves. They are still heavily dependent on NATRIPAL, which in turn is still grappling with internal issues such as deciding its own future direction and developing its financial and management capabilities. The federation is also plagued with the dilemma of seeking new funding now that BCN and other grants have ended. This dilemma is made worse by the fact that NATRIPAL got little or no support from WWF and the other international organizations that were supposed to be its partners in this project.

Now in its sixth year, NATRIPAL is at the crossroads of its existence. For it to raise the necessary funds to continue its activities, the federation must be able to demonstrate to outside agencies and organizations that it is capable of successfully implementing projects on its own. It must draw valuable lessons from its previous experiences and must be able to rise above its internal organizational weaknesses and infancy. At this juncture, NATRIPAL must be forward-looking, based on a realistic assessment of past problems.

Story: Agnes Rio De Mesa. Agnes has a B.Sc. in Agriculture from the University of the Philippines, Los Baños. Prior to joining the Palawan project as the Project Manager, she was the Regional Director of the Task Force Detainees of the Philippines (advocacy work, institutional promotion, and social marketing).

BCN Commentary: Chuck Encarnacion, Program Officer, Manila.



14

Our Road To INDEPENDENCE

NICK SALASKY

Sales of jellies, orchids, and mushrooms help the Ikalahan tribe stop a highway and plan their own path towards a sustainable and self-determined future.



What's Happened Over the Past Year?

The Ikalahan Tribe was the first tribe of indigenous people in the Philippines to gain genuine control of their ancestral lands.

All of the previous reservations were managed by a government department that "protected" the tribe without respecting it. This, of course, was insulting. In 1974, the Ikalahan negotiated a 25-year Memorandum of Agreement with the Philippine government that established the Kalahan Reserve and respected the ability of the Ikalahan to devise their own methods of sustainable management.

During the first few years the tribal members worked together to stabilize their natural resources by eliminating wildfires and improving the watersheds. Simultaneously they sought to upgrade their human resources by establishing their own high school, Kalahan Academy, and assisted some of their youth to obtain higher education. Later they expanded their program to improve food production within their reserve, and finally they worked on the sustainable production of sufficient cash to supplement the income of their families and the incomes of their legal personality, the Kalahan Educational Foundation (KEF). All of these activities had to take into consideration the protection of the natural resources including biodiversity and the sustainability of the programs.



**KALAHAN RESERVE,
NUEVA VIZCAYA,
PHILIPPINES**



PARTNERS:

- .. KALAHAN EDUCATION FOUNDATION (KEF)
- .. NUEVA VIZCAYA STATE INSTITUTE OF TECHNOLOGY (NVSIT)
- .. UNIVERSITY OF THE PHILIPPINES, LOS BAÑOS (UPLB)
- .. UPLAND NGO ASSISTANCE COMMITTEE (UNAC)





Starting Over After Disaster

As is the case in many other BCN projects, a natural disaster seriously delayed the implementation of conservation activities. Although the earthquake was devastating, at least it had a small silver lining. By starting over, the project team members and the community had a chance to learn from previous mistakes and “do it right” this time. The disaster also served to pull the community closer together.

WHAT NEEDED TO BE ACCOMPLISHED?

The Ikalahan were anxious to be self-sufficient before May 1999 — the time for the renewal of their Memorandum of Agreement. But they were delayed by several problems, not least of which was a major earthquake in 1990, which destroyed most of their homes, farms, water systems, and roads, as well as many of the natural resources. During the next four years, KEF had to restore everything before even thinking about improving anything.

They were delayed by several problems, not least of which was a major earthquake in 1990, which destroyed most of their homes, farms, water systems, and roads, as well as many of the natural resources.

A good survey of the biodiversity within the reserve was an important first step to their development of long-term work plans. Without such data KEF would have a difficult time knowing what needed protection and what they could use. They had already identified two means of sustainably producing cash for the maintenance of the resident families and for the support of the KEF, itself. The most promising program for the short term was the Food Processing Center, which utilizes forest fruits to produce high-quality jams, jellies, marmalades, and preserves. This program had to be brought to a level where it would be profitable in the shortest possible time.

The second program that had already been identified was the Modified Timber Stand Improvement Program (TSI). This program still needed to be proven, however, and government agencies needed to be convinced that it could be successful. This is a long-term program (15 years or more) but we hoped that enough indicators could be identified in a short time to convince the community and the government officials of the wisdom of the program. All of these factors were important to convince the “powers that be” to renew the Memorandum of Agreement by May 1999.

BCN entered the picture to help the KEF accomplish the following:

1. To undertake the inventory of biodiversity within the reserve,
2. To expedite the development of the Food Processing Center to make it income-generating,
3. To generate enough data concerning the standing wood (timber) within the reserve and the impact of the modified TSI on the forests to prove the efficacy of the technology, and
4. To provide enough background data to enable the KEF to identify other niches that might provide sustainable sources of income for families in the future.

WHAT WAS ACCOMPLISHED?

The inventory of large plants is not yet finished but more than 1,100 species are in the database and the identification of some of the rarer species is still underway. Eleven of these species are on the International Union for the Conservation of Nature lists of species that need protection.

The inventory of birds has progressed very well but is also not yet complete. A total of 148 species have been clearly identified of which at least 27 are on one of the lists of species to be protected. An additional three, and possibly four, species seem to be species or sub-species that were previously unidentified. These are still being studied. The inventory of wild orchids has already exceeded 60 species and continues to grow. All of these need protection and two of the species are on the critically endangered list.

The Food Processing Center is experiencing increasing sales and should be able to reach the break-even point in a couple of years. The most important addition to the Food Processing Program is the development of the new Low Sugar Line of jams, jellies and marmalades that will be



PROJECT OVERVIEW

What's at Stake?

The primary and secondary forests in the Kalahan Reserve in Nueva Vizcaya support diverse plant and animal species as well as 550 Ikalahan families who live there. The reserve contains nearly 15,000-ha of land that constitutes the ancestral homeland of the Ikalahan, which they now manage under an agreement with the Philippine government. Compared to other localities, these resources are well managed. Nevertheless, there are threats from road building and overharvesting of certain non-timber forest products (NTFP).

What's Being Done About It?

To address these threats, the Kalahan Education Foundation (KEF), a local people's organization formed by the Ikalahan Tribe, is implementing an integrated program of community forest management and non-timber forest product extraction. The project site is formally recognized by the government of the Philippines and the project played an important part in developing government policies for local management of resources.

Specific enterprises that the project is undertaking include the production of jams and jellies from forest fruits, cultivation of orchids and mushrooms, and the manufacture of furniture. In addition, the local communities are undertaking timber stand improvement in the secondary forests. By adding value to the resources and developing alternative markets for their products, KEF is diversifying the communities' economic base. KEF and the Ikalahan people are also developing systems for monitoring and evaluating the status of resources within the reserve and ways to assess the impact of the economic activities on their resources over time.



Seeking Marketing Help

That Kalahan has been able to make a dent with its Mountain Fresh brand of jams and jellies in metropolitan markets is due in no small measure to UNAC, with which it has forged a marketing arrangement. Where they have a comparative advantage in community development activities most NGOs are not very business-savvy. Kalahan, recognizing its limitations, has wisely chosen to seek assistance.

Benefits of Monitoring

KEF's monitoring work has had many benefits. Documentation of the endangered flora and fauna within the project site has served as one basis for the cancellation of the proposed national highway that was supposed to dissect the Kalahan Reserve.

Monitoring of fruit production and harvesting methods has ensured the existence of an adequate supply of raw materials for the continued production of jams and jellies. And, having good data has helped enable KEF to convince authorities that community members can be entrusted with potentially controversial actions like timber-harvesting.

KEF's work has shown that having good monitoring data is invaluable in assessing and establishing management agreements between the different community, private, and government sectors in other parts of the country.

inaugurated in July 1999. As reported last year, the communities have integrated harvesting the wild fruits into their social systems by developing informal consolidators and delivery systems.

The Food Processing Center is now closing in on the break-even point and by 1999 it should be profitable.

The inventory of standing wood is being completed at the present time and computations regarding the growth rates of various types of forests have been completed. This will enable KEF to make long-term plans and forecasts of expected income from the culling activities that will be undertaken to improve the watersheds and production forests. Clear-cut logging will never be permitted, of course, but the culling process should produce more lumber than logging anyway.

SUCCESSSES

The Ikalahan have been able to successfully protect their reserve from different forms of internal and external threats such as destructive agroforestry practices and the construction of the proposed national highway. A few misguided political leaders were pushing for the construction of a highway through the sanctuaries, but our congressman and mayor helped build momentum in favor of protection of the sanctuary and finally outweighed the pressures in favor of the highway.

The proposal to build a highway through the Kalahan Reserve has apparently been set aside. The engineers are now looking at a route east of the Kalahan Reserve where a road is definitely needed and desired by the residents. The tribal leaders have identified an alignment that will not damage the old growth forests. The KEF personnel, however, continue working with the affected communities (which are Ikalahan but outside of the Reserve) to enable them to protect their own farms as well as the biodiversity. The engineers have been very cooperative.

The proposal to build a highway through the Kalahan Reserve has apparently been set aside.

Another major success came in 1998 when the Ikalahan were awarded three Certificates of Ancestral Domain Claims (CADCs) that would allow them to expand their stewardship-management rights from 14,000-ha to 50,000-ha when the original agreement comes to an end by 1999.

Finally, a third major success involves the growth in conservation awareness among the community members. As an example, while pursuing the goal of sustainability, the KEF realized that it could not be accomplished if chemicals were used in the agricultural activities. The Tribal Elders therefore banned all chemicals. The impact has been greater than expected as the fish have multiplied in the rivers, and as birds, animals, butterflies, and reptiles have multiplied in the forests. The populations of agricultural pests have been greatly reduced by the improvement of local biodiversity. The success of this program has been brought to the attention of the municipal and provincial governments and they have agreed to promote the same throughout the entire province with the cooperation of some of the national officials. The governor of the province is also interested in making a provincial ban of several of the pesticides that are not yet banned by the national government. This program is still underway.

The success of this program has been brought to the attention of the municipal and provincial governments and they have agreed to promote the same throughout the entire province.



NICK SALASKEY



The Importance of Awareness

The food web seminars have raised environmental awareness among the community. Two concrete outcomes can perhaps be attributed to these seminars: 1) the setting aside by the Ikalahan, of a large area as a sanctuary within the reserve, and 2) the fact that the community was able to speak with one voice in opposing the proposed road through the reserve.

When to Expand?

KEF has enjoyed a great deal of success. But now neighboring communities are calling for their help. KEF faces some difficult choices. Should KEF help these communities develop food processing enterprises that “compete” with the established Mountain Fresh label? Or should they try to develop new types of enterprises? Likewise, where will KEF get the entrepreneurial and managerial talent to develop these new businesses? It is a difficult balance between expanding to take on new challenges and avoiding spreading yourself too thinly.

BCN Commentary: Chuck Encarnacion, Program Officer, Manila, and Ganesan Balachander, Director, Manila.

As another example, as mentioned in last year’s report, the communities have also become more aware of the value of the sanctuaries in maintaining a healthy environment including natural pest management. The food web seminars were a participatory approach to teaching ecology and an excellent way to facilitate community understanding of how their local ecosystems function. In each community, the food web seminars came up with a unique observation.

In one, they observed the need to protect the rat snakes in order to reduce the rats, which have become horrible pests in the food production fields. Our pastor was hiking with some young people shortly after one seminar where this observation was made and they saw a rat snake crossing the trail. Because of their fear of green vipers, the villagers previously had a habit of killing any and all snakes that they saw. This time his companions made no move to kill the snake. They also discovered that several of the bats were responsible for seed distribution and germination of the trees, which are important to the watersheds, so they voluntarily enlarged the sanctuary to 2,000-ha and are working to improve the nesting sites and food supplies for the important dispersal species.

Other high schools in the area have been attracted to the total program of environmental education and they are now inviting KEF staff to visit barrios and schools to conduct seminars on basic ecology. KEF staff is hoping to fulfill this opportunity.

CHALLENGES

The biggest challenge at the present time is to bring the Food Processing Center to the point where its net profits can support the other activities of KEF. Many of the efforts of the staff are aimed at this goal.

The biggest challenge at the present time is to bring the Food Processing Center to the point where its net profits can support the other activities of the KEF.

The Kalahan Academy, the education arm of KEF, is now looking to help some of the more remote tribes that are in need of appropriate education opportunities. These are the Aeta Dumagat, Bugkalot and I-wak tribes, all of which are in or adjacent to Nueva Vizcaya. Through the Kalahan Academy, other communities that have not benefited directly by the Kalahan Programs can benefit through their educated youth.



NICK SALASKY

Story: Pastor Rice, Executive Officer of the Kalahan Educational Foundation, Inc. He has been working in the Philippines since 1956 and has been living in the mountain village of Imugan since 1965. In addition to his duties at KEF, Pastor Rice serves on the boards of several Philippine NGOs.

Managing the COMMON GROUND



NICK SALASIKY

An NGO works to find a balance between promoting conservation and developing clan-owned lands in the Highlands of PNG.



What's Happened Over the Past Year?

As reported last year, increasing numbers of scientists and ecotourists are visiting the Wildlife Management Area (WMA). Scientists are coming because they have heard by word of mouth from satisfied colleagues about Crater's improved facilities, services, and infrastructure including accommodation, availability of trained village assistants, standardized pay rates, and the presence of computer and communication equipment. The range of research has expanded to include biologists and anthropologists who together are conducting base-line surveys, generating exciting new scientific discoveries, and providing a greater understanding of human use of the natural resources of the WMA. Likewise, ecotourists are now visiting all communities in the WMA. In each community, there is a guest facility and a package of day and overnight guided tours operated by community members.



CRATER MOUNTAIN
WILDLIFE
MANAGEMENT AREA,
PAPUA NEW GUINEA



PARTNERS:

- .. RESEARCH AND CONSERVATION FOUNDATION OF PNG (RCF)
- .. WILDLIFE CONSERVATION SOCIETY (WCS)





Setting Precedents

National legislation governing WMAs in PNG was passed in large part due to the efforts of the Crater Mountain project team. The team is now working to develop ways of implementing these laws in collaboration with provincial and national government officials. The work at the Crater Mountain WMA is setting important precedents that are being copied by other groups in PNG interested in applying the WMA legislation.



ARLINE JOHNSON

In each community, there is a guest facility and a package of day and overnight guided tours operated by community members.

There are now handicraft stores in each community. These stores are based on a successful model initiated in one village in 1990. Each business is run by a committee, with proceeds going to over 100 artisans in each village. The businesses sell traditional spears, bags, artwork, and fighting shields to visiting scientists and eco-tourists who come to the village. They also fill mail order sales and send community representatives to sell their products at national handicraft shows.

Under the WMA national legislation, landowning clans in the WMA identify clan representatives to form Management Committees who create laws regarding the management of natural resources (within the parameters of the national law) and act in an official capacity to enforce them. Over the past three years, the Management Committees have put in hard work and conscientious effort to draft and enforce natural resource laws within the boundaries of the WMA.

CHALLENGES

We have encountered many challenges and are still plowing through them. But we are also trying to find solutions to each challenge.

Ownership Issues

Because the communities think the project ownership is vested in RCF, they want to get paid for all labor and time rendered in service of the project. For example, the community members know that the guesthouse they are building is their own, and yet they will only work on it if they get paid. Even the entire

management committee would like to get paid for time spent away from their gardens during meetings. As there is no remuneration, attendance at committee meetings is low.

The community members know that the guesthouse they are building is their own, and yet they will only work on it if they get paid.

In part, this attitude comes from expectations created by the government. For example, local people expect the government to pay them to build their own airstrip and to maintain it. This situation has been exacerbated by a government handout scheme called the Electoral Development Fund. This scheme provides each Member of Parliament with a "slush fund" that they can disperse at will and indiscriminately on rural development projects. If this governmental handout approach is maintained, the people will never develop ownership of any community development project initiated by the government or other community development agencies like RCF. Working against this backdrop, RCF is fighting an uphill battle in the realm of community ownership of any part of the project.



PROJECT OVERVIEW

What's at Stake?

The enormous Crater Mountain Wildlife Management Area (WMA) covers 2600 km², an area about the size of the state of Rhode Island in the United States. The site spans a wide range of elevations (150-2,100 meters) and contains a full range of biodiversity of Papua New Guinea (PNG). Primary forest blankets the lower elevations, while alpine scrub and grasslands occur higher up. The WMA is home to 220 bird species, of which 49 are endemic, and 84 mammal species, of which 15 are endemic. Although the area currently has a low population density, a number of threats loom including industrial logging, mining, and oil drilling. These threats are compelling because the companies that would like to access the natural resources of the WMA are offering the local residents who own these resources relatively large amount of money compared to their current incomes.

What's Being Done About It?

To address the threats to biodiversity, the Crater Mountain project team was formed by the Research and Conservation Foundation of PNG (RCF) and the Wildlife Conservation Society (WCS). The team works in partnership with numerous national and international NGOs, the government of Papua New Guinea and the Gimi and Pawaian landholders on the Crater Mountain Wildlife Management Area. The landowners bring their ownership of natural resources, an expertise in forest knowledge and use, and a desire for community development. Agencies and organizations bring their technical expertise and access to a network of information in the development of rural enterprises and sustainable management of natural resources, as well as a desire for forest conservation and empowerment of community enterprises.

The project has established a locally owned and operated research and ecotourism enterprise in the wildlife management area providing technical assistance and training to three communities on how to develop a suite of eco-enterprises, including scientific research stations, adventure and natural history ecotourism, and natural handicraft sales. These enterprises provide lodging and guide services for visiting scientists as well as for domestic and international visitors interested in experiencing the natural wonders of the Crater Mountain area. The team is working with landowners to develop a management plan that provides for biodiversity conservation and enterprise sustainability. The team hopes to demonstrate to government officials and other landowners in PNG that community-managed lands can generate profits in a sustainable fashion.



Avoiding the Handout Mentality

Given the pressure to produce benefits and the real demands on local people's time, it is easy for project teams to fall into the trap of paying local people for their services. But as the story illustrates, this can often create a handout mentality that reduces the sense of ownership people have in the project. It is a fine line to walk between paying people for their efforts and providing handouts—especially when you have tourists scheduled to come in the near future and no guesthouse yet.

Leadership Issues

The Management Committee is an "elected" leadership that represents the different clans in the village. Each committee decision must be ratified by the landowning clan, so ultimately the decision must be supported by the traditional clan leader, who may or may not be the elected representative. The traditional cultural way of selecting leadership is to "recognize" a leader. A leader must be a fighter (he is in the forefront when there is a fight), an orator (able to think and say things in a forceful, logical, and rational way), a property owner (this usually means having several wives, who can make more gardens, raise more pigs, and bear more children), and a distributor of wealth (this is the attribute that endears his people and also brings on blind obedience). A leader is called a "bigman," and when he makes a suggestion, people follow it to the letter.

*A leader must be a fighter, an orator, a property owner,
and a distributor of wealth.*

Difficult issues can arise when some of these traditional leaders become involved in the project. Sometimes they become too powerful and that becomes politically sensitive and spells dangers for the project. In addition, these traditional leaders do not always have the "modern" skills necessary to run enterprises. But to try to dismantle the current leadership structure could have serious social ramifications. We hope that some of these problems will be reduced when the next generation of clan leaders, who are younger, more conversant with conservation and development issues, and better educated, will take over from their fathers. The plan is to train and empower leaders to provide depth and strength and to encourage initiative and motivation.

Law Enforcement

The laws formulated by the Management Committees are good laws, but enforcement is sometimes queasy because the people in the area are all related to one another. It becomes hard for committee members to take a stand in a decision ruling against a relative, because then his clan members will not stand by him in times when he is in trouble. In spite of this, some committees are taking bold steps in enforcing laws.

It is also hard for the Management Committee to enforce the laws when they receive little government support. A man in Maimafu recently infringed on the law, shooting a Raggiana Bird of Paradise. The committee summoned him, but he challenged them to take him to the district court rather than their "rubbish bush court." The committee did not have the money to do that, so they reported the matter to the police, but the government did not have the money either. RCF is trying to help the committee gain government's assistance in establishing village court systems, which will handle all infringement of conservation laws as well as other civil laws in the communities. The usual answer from the provincial



Growing Confidence

It is important not to underestimate the significance of rural people gaining the confidence to enforce their laws, even when this involves challenging and making demands of government officials. This is perhaps best illustrated by an example in which Management Committee members from the village of Haia confronted a party of visiting government officials who had (in violation of the WMA laws) used shot-guns to kill a cassowary. The Committee members informed the officials that they had broken the laws and then confiscated the dead animals and fined the officials. These actions by local people would have been unthinkable only a few years before and speak volumes about the confidence the project has given the Management Committee members.

government section was: there is no funding. Now RCF is working with the councilors to put this in their Ward Development Plan to be submitted to the District Administrator for funding. The other potential solution is to employ rangers to patrol the WMA and hear court cases. A neutral person from outside of Crater would deal with the issue quite adequately. The question though is who is going to pay the rangers? Should all the committees in Crater chip in to pay the rangers or would the government carry that burden?

The committee summoned him, but he challenged them to take him to the district court rather than their "rubbish bush court."

Equal Distribution of Benefits

This is another tough call. In this fragmented society, those who become leaders tended to siphon money-earning opportunities to their clansman. Furthermore, due to traditional clan feudalism, enemy clansman cannot work together. There is too much at risk. If two enemies are working together and one person gets sick from food poisoning and dies, the payback system that requires "revenge" becomes operational. Then the project is at risk of being closed down. A game plan has been devised in which not less than two clan members from the same clan must work together when doing work with other clans.

Unfortunately, this need to have multiple people from one clan working together means that only a few clans benefit from a given enterprise. The others then build up frustration and disillusionment over the project and impede



its progress. For example, in Herowana, the committee member representing the clan gave his vote for a scientist to work in a bat cave on his clan's land, but another brother put up a "no access" sign, so there was a lengthy discussion. Before the work could continue, some form of appeasement to the dissenting brother was necessary. In July, when some of the staff went for a trans-Crater walk, from Maimafu to Wabo, a landowner put a "no trespassing sign" on the path in Wabo and demanded money before the party crossed his land. He too had to be appeased. Recently a disgruntled villager shot a Raggiana Bird of Paradise in Maimafu due to festering dissatisfaction over the distribution factor.

The others then build up frustration and disillusionment over the project and impede its progress.

One solution to the problem was to set up a rotating roster for all clans involved with a given enterprise so that opportunities will rotate. This solution worked for some time and then collapsed in Herowana. It is working to some extent in Haia now. Another approach that is working and RCF may continue to employ is education. RCF's staff members in the field continue to encourage the people to work for the betterment of the community. Other approaches need to be developed that can fit into the culture. It is still a big thorn in the side of the project.



ARLYNE JOHNSON

To Play Clan Politics or Not?

Perhaps the most notable feature of doing conservation work in Melanesia is that land and surface natural resources are communally owned by the traditional landowners. Thus, depending on the scale at which you are interested in doing conservation, you have to work with different families, sub-clans, clans, or even language groups. These groups also typically have a long history of interacting with one another in a complex and shifting web of alliances and enemies. It is extremely difficult if not impossible for outsiders (including other Papua New Guineans) to try to figure out the politics of a given situation.


As a result of having to work with multiple social groups, every BCN-funded enterprise in Melanesia has faced a key question: Is it better to try to set up separate businesses for each group of people or is it better to try to develop a system that enables the groups to work cooperatively on one business?

The experiences of BCN's partners in PNG and other parts of Melanesia indicate that it is generally easier to develop separate businesses for each group. The handicraft businesses at Crater Mountain are a good example. But, if the business is not easily "divisible into components," then this principle does not work. For example, within a village at Crater Mountain, it is not possible to set up seven guesthouses for each of the seven clans. In this case, the best the project could do was arrange a rotating roster to give each clan a chance to participate. But trying to maintain an equitable balance among the seven houselines in a given village has proven to be a heroic task that has consumed huge quantities of project staff time. Overall, it generally seems to make the most sense to try to stay out of the politics and make the people themselves responsible for settling disputes.

Dissemination of Information

Information is power and people here know that, so they hoard information. Time and again we asked the committee members to disseminate information generated from the meetings to their clan members. But it's not the way the culture works. If someone were to come into a community and ask questions regarding the work of RCF, a person who we thought should have known about the project would probably say "Mi no save" (I don't know) with a shoulder shrug or a blank stare. So a plan was devised for the committees to announce issues discussed in the committee meeting at the village marketplace. That worked in some communities where there is a market; but where there is no market, this did not work. So we are trying another set of solutions.

Leaders from various groups in the communities are now invited to a committee meeting if it is an open meeting. These include women's group leaders, church leaders, school committee leaders, and health workers' representatives. We anticipate that they will in turn pass on the information. We also decided that announcements will be posted on the school, clinic, and church notice boards. Finally, field staff now try to meet with each clan and pass on the



information from the committee meetings. These approaches are working to some extent and will be tested for a while longer before other methods will be discussed.

Low Literacy Levels

Throughout the WMA, landowners have an average education level of grade one and are still largely engaged in a subsistence lifestyle. They are struggling to collect and digest information about everything from natural resource law, economic options, and probabilities of businesses that they are only beginning to understand, as well as the unknown and little-understood social impacts of the development options being presented to them. Project staff, in turn, are challenged to collect and deliver the needed information for decision-making to the communities in a clear and uncomplicated format while still addressing the complexities of the options and their implications.

This is an inherently acute problem, that cannot be rectified in a hurry, so we are putting measures into place including training Trained Local Observers (TLOs), conducting adult literacy classes and subsidizing school fees. The first two solutions are working. The TLOs are being used in most of the monitoring and research assistance work, and those enrolled in the adult literacy classes, are engaged in their own enterprises. It is too early to know if the third solution will help.

Logging and Mining

Logging is planned in the southern part of the WMA. Back in 1992 the landowners began to receive "grease" money from the loggers, obligating them to be involved in logging. Without having signed a contract, they have sold out their rights to the logs by receiving money under the table. We tried two approaches to stop this. At three different times, landowners were sent in to discuss the issue with the government department involved, as well as RCF management. The result was that the department promised to excise the logging plan from the official planning map. To this day it is not clear whether this has been done or not. We have also tried to educate the landowners about their rights. Now, in 1998, the people are beginning to realize what logging means.

On the northern boundary of the WMA, industrial and government requests to explore for gold and copper deposits have divided clans of the same language group. Those within the WMA have cautiously examined the options, requesting more information and guidance from NGOs on how proposed activities will affect their current eco-enterprise and conservation activities. Related clans outside of the WMA boundaries, within the same mineral exploration area, have applied intense pressure on their neighbors to submit to the requests for further exploration and possible exploitation of mineral deposits. At times in the past, tribal fights between clans have resulted from the tense negotiations. Clans from the other language group downstream from the exploration area in the WMA also worry about their water quality if clans upstream elect for possibilities of mineral extraction.

At times in the past, tribal fights between clans have resulted from the tense negotiations.

Now it appears that mining is likely to take place. This will be announced soon after the second round of drills and core analysis in the northern part of the WMA. Although RCF has been there some 20 years, it seems the cash economy will win in the end. The people want cash from the eco-enterprises RCF helped them to develop, yet at the same time, they want cash from mining or logging. This is serious business for us. You would think that because RCF has been in the area longer we would have an edge over the miners, but money always wins. We have requested the mining company to come back if the result shows promise so that we can work together on an environmental and social impact plan to minimize impacts. They have agreed, so that is a small victory. But one never knows what the mining company means when they say something. If the results of the core analysis are promising, the mining company will come back to the people to seek their "approval" to mine.

The people want cash from the eco-enterprises RCF helped them to develop, yet at the same time, they want cash from mining or logging.

The Maimafu people are telling us one thing and saying another thing to the company. They say that they have categorically denied the company access to their land, but secretly they agree that mining should go ahead. This is not surprising when money is involved. RCF is preparing for the worst, increasing awareness on the positive and negative developments of large-scale mining operations. We have purchased a video player and are showing mining impact documentary cassettes for viewing by the community. RCF is also flooding the media with news, activities, and events in Crater in an attempt to invoke public sympathy when the mining goes ahead. RCF has also requested the company to be part of an Environmental Impact plan. That seems positive. RCF has planned a study tour to a mining site for landowners. This has been a very powerful awareness raising tool in the past.

Misconceptions About RCF

RCF has maintained a field presence on a continual basis and that is a major strength of our work. However, communities in Crater assumed that RCF's involvement with them would automatically bring lots of cargo — material goods and social services. These are very slowly percolating down to the people and thus there is a lot of disillusionment and apprehension about RCF's work in Crater.



The Lesser of Two Evils

Conservation NGOs like RCF are often put in a difficult position in terms of what strategy to take over time. From RCF's perspective, it would be to have neither mining nor logging taking place in the WMA. Although the decision is ultimately up to the local landowners, if it seems that the local people want some form of development, is it better to "lobby for" mining as the less environmentally damaging option? And can RCF go from advocating no mining to then advocating reduced-impact mining if it seems like some form of mining is inevitable?

These are difficult questions that can be answered only in the context of the individual project site.



Avoiding Cargo Cults

An interesting phenomenon that developed in remote PNG villages when they were first contacted by the outside world was the development of cargo cults whose members would literally develop religious rituals to summon the airplanes carrying commercial goods. Even today, there is a prevailing attitude among many villagers that outside organizations like RCF have a responsibility to bring them the goods and services that they want. This expectation can make it hard to get community buy-in.

Our officers are here to answer most questions and work closely with people on awareness and training. However it is becoming apparent that the most pressing and important questions that the community members have are not being addressed to RCF officers. They go "underground" and surface in another place. There is a whole set of questions, comments, and perceptions that we are not privy to, and these surface when a newcomer happens into the community — it could be a government officer or a new scientist.

It is becoming apparent to us that there are deep-rooted grudges festering against RCF. People perceive RCF using their name to get lots of money, which they do not ever see. Hence that attitude is acting as an impediment to them taking ownership over the project. Another issue that is acting as a bottleneck is the expectation of tangible developments like water supply, guesthouses, and other infrastructure establishments. To their way of thinking, awareness, and training is not development, while we emphatically think it is. So it is apparent that both soft development and hard tangible development must go hand in hand. Investigation and application of this dual approach is important to fostering ownership and sustainability among the community.

A related but not obvious issue is that RCF's continued presence in the communities might be acting as a hindrance to communities to accept leadership roles for themselves and thus develop that ownership spirit that we so earnestly seek among the communities. So RCF may be fulfilling its agendas but not the communities' agendas. Also by staying too long in the communities, RCF may be acting against the aspirations of the people to own and run the project. A good reason for RCF's continued presence is the low literacy level. But, as soon as this changes, RCF should phase itself out of Crater. This transfer will hopefully nurture local ownership.

RCF's relationship with the communities was tested a few months ago when all the councilors in the Unavi constituency (which covers the Eastern Highlands portion of Crater) conspired together to evict RCF from Crater. They agreed to take this resolution back to the people for confirmation and then RCF would be asked to leave. However when we spoke at a school closing ceremony at Herowana we diffused that and turned the tables on the councilors by announcing their plans to the people. At the meeting, two local leaders who have benefited from the project unequivocally voiced their support and pledged their lives and their clan members' lives too. At least Herowana has pledged commitment to working with RCF for conservation and development. Some individuals in each community are imperceptibly coming around to see what all this is all about. The efficacy of the anti-RCF plot in the other communities is pending.

Two local leaders who have benefited from the project unequivocally voiced their support and pledged their lives and their clan members' lives too.

SUCCESSSES

Important Government Policies Change

Last year the project staff joined with landowner committee representatives from four WMA communities to stage the first provincial briefing for public officials from Eastern Highlands and Simbu provinces. This briefing covered conservation and development initiatives in the WMA including natural resource laws and enforcement procedures operating in the WMA. The presentations led to the endorsement of the conservation and development activities in the Crater Mountain WMA by government representatives in both provinces. Officials were impressed that representatives of 21 different clans and 2 language groups from remote regions of their provinces and with limited formal education could generate and manage income from enterprises based on conservation instead of the customary large-scale resource extraction model of development.

Officials were impressed that representatives of 21 different clans and 2 language groups from remote regions of their provinces and with limited formal education could generate and manage income from enterprises based on conservation.

This year, RCF helped prepare a policy presentation to the Department of Environment and Conservation (DEC) to be forwarded to the National Executive Council (NEC) for enactment. A section of the submission referred to a change of Policy on the Fauna Act which accords protection to animals alone and not their habitat or food. The submission stipulates the Fauna Act be changed to Conservation Areas Act which protects both fauna and flora. This is now before the NEC and the outcome is imminent.

RCF also presented a paper on improvements to the DEC, speaking about the need to downsize it and to make it into a policy-coordinating body and to set up a Biodiversity Conservation Institute (BCI). The BCI would have jurisdiction over all current protected areas and development of new protected areas. It would then work with national and international conservation NGOs to operate the protected areas. (This was proposed to help deal with the fact that DEC does not have the capacity to run all 21 protected areas in the country.) The DEC policy-coordinating body would oversee and enforce policy on mining and petroleum, forestry, fisheries, and agriculture to ensure departments adhere to conservation protocol.

RCF had a pleasant surprise in our last Board meeting when the DEC Secretary, through his representative on the RCF Board, requested that RCF take over the management of the Gavahisuka Provincial Park in Goroka. He also announced that the Moitaka Wildlife Sanctuary and Variarata National Park in Port Moresby will be handed over to WWF for management. This is the exact thing we were



Who Is BCN Giving Money To?

One of the “side-effects” of being transparent and open with community members is that they then have access to information that they can interpret in interesting ways. After meeting with donors coming to visit the WMA and reading about grant awards that RCF received in the newspapers, the community became aware that RCF had received large amounts of money for its work in Crater. They saw the RCF staff flying in and out of the basin, buying expensive equipment, and traveling to Port Moresby; rumors began to spread that RCF was using cash that was intended for the local people for its own purposes. It has been difficult for RCF staff to explain that the cash was not intended as a handout, but for project activities. At one point, during a site visit, BCN staff members had to explain to the community group that “yes, indeed, RCF was using the money as we had intended it to be used and that the people were not getting cheated.”



Spreading Out Too Thinly

The RCF staff justly claim as a success that DEC has asked them to take over management of a provincial park. There is, however, a danger here that RCF does not have the staff or management capacity to add this new work onto its already burdened shoulders. At a strategic planning session in 1997, RCF staff explicitly rejected the idea of taking on new projects until they had a better handle on the situation at Crater. It will be interesting to see if they are now prepared to take on this new task.

referring to. We are also writing up proposed changes to the WMA rules based on the Crater experience.

Resource Sustainability

Handicraft sales are turning a handsome profit for the communities, mostly for women who make the sought after "bilums" or string bags. Herowana is a leader followed by Ubaigubi, Haia, and Maimafu. The test, though, is whether people are going to make the linkage between their profits and the natural resources that are bringing them income? Will they place a value on the resources so that they manage them sustainably? In Herowana, the palm used for making bows and arrows is getting scarce. We asked them how they are going to solve this problem. Some people shrug their shoulders, while others think they can plant the palm near the villages. So the idea of management and sustainability is soaking in very slowly.

Handicraft sales are turning a handsome profit for the communities, mostly for women who make the sought after "bilums" or string bags.

Thriving Enterprises

The Haia community surprised us by reinvesting the money they earned from their enterprises into two trade stores. We had written them off as people who did not have any initiative or entrepreneurial skills. Even more surprising is that both stores are running a profit.

These two trade stores are a trademark of success for the project, in the sense that this was the initiative of the people. Rather than dividing the money and putting it in their pockets, the committee decided to invest in the store. The other store is owned and operated by the Haia clan. That is something that is not seen in the entire Crater Mountains. They have also invested their money to realize larger financial benefits. The stores running side by side are providing good healthy competition.

Herowana has seen a significant increase in income from visitors recently with biological surveys, training of University of Papua New Guinea (UPNG) students, and more researchers on the way. Maimafu has opened its artifact shop near their airstrip and they are also realizing monetary benefits. They also had some researchers in there studying Tree Kangaroos, and the annual meeting was convened there, which brought in handsome cash for the community. They have embarked on the construction of their guesthouse with vigor and energy. Once completed, visitor arrivals can increase and along with that, increases in cash for the community.

The Business of Research

Research as a business has developed into a major money-earner for the village of Haia. The money earned from research far exceeds either artifact or

coffee sales throughout Crater Mountain. This has been one of the success stories of the enterprise development in the project. RCF has now employed a marketing officer to seriously market Crater Mountain products. It is envisaged that a lot more visitors and scientists will meander into the hinder lands of Crater Mountain to satiate their love and hunger for the natural beauty that abounds.

Indeed straight after the Crater brochure was posted on the Bird of Paradise notice board, several tour operators, mainly from the United States and the Tourism Promotion Authority (TPA) have been to the office inquiring about the possibilities of tour packages for Crater. This is exciting to staff. The question now is will the Crater communities stand up to the pressure?



ARTYNE JOHNSON



Personal Relationships

The story graphically illustrates the importance of personal relationships in making conservation happen.

Clearly, RCF is in a much better position to get their message across if the residents of Maimafu so value Robert Bino that they pass a law saying that “Robert must remain and work with us.” However, if Robert decides to move on, then it may be hard for the project to keep doing the same work without him.

Setting a Good Example

Haia is setting the pace and now the Gimi people are looking on with jealous anticipation. The Gimi people are a forward-thinking, robust, hard-working people who would do anything to earn money. But that has been the problem. Everyone wants to do something but there is no concerted community effort to do anything worthwhile. The ardent hope of RCF is that this will coerce the Gimi communities together.

Building Good Relationships

This is considered to be a successful part of the story — building a working relationship that germinates trust and confidence. People trust RCF as they see RCF staff presence in the communities. They actually become very possessive over RCF or even a particular staff presence in their community. For example Robert Bino is owned by Maimafu. They actually brought this up as a law to be passed by the committee. So in one sense they are frustrated with RCF for not delivering the expected cargo and services and in another they would like RCF to continue.

TESTING THE ENTERPRISE-ORIENTED APPROACH

Having land in the peoples’ custody is an ingredient for success and yet it has its own constraints. However let’s say it is a good thing that people own the land. After having tried the Integrated Conservation and Development (ICAD) approach, as it is called here in Papua New Guinea, RCF thinks there is still plenty of potential for this approach to work. Still, it does need to be refined somewhat. If we were designing another ICAD project in PNG we would be sure to do the following:

1. Upon invitation by the community to get involved, a team would go in and do a resource use awareness campaign. During this two-to-three month period, the community must be exposed to types of natural resource use like logging, mining and agriculture as well as to the ICAD process. All must be explored and exposed — the benefits, the constraints, environmental and social impacts, the long-term sustainability must all be put on the table. The key here is the people must want to go the ICAD way and their decision must be based on information and thus the ownership and sustainability are assured at least in a small way. In this country, when the people give their word they will keep their word.

The key here is the people must want to go the ICAD way and their decision must be based on information.

2. The next step is an intensive, six-month, awareness campaign presenting the ICAD process: what it means, what it will do, how it will affect them, how much involvement is expected from the community, what is the relationship of the government to the project, what is the relationship of the ICAD

proponent to the project, who owns the project, how much contribution is expected from the community. All these and more must be discussed at length. The idea is that the people must know exactly what they are getting into without any shadow of a doubt.


3. By this time the people should be crystallizing their objectives for the projects. It must not be coaxed by the proponents. If steps 1 and 2 are followed properly, the people will have already formed an opinion about the benefits that must be accrued to them. The project proponents will also come up with their objectives and goals. Honesty and frankness must prevail from both sides. The goal is biodiversity conservation. But the objectives from both parties will be different and may be opposing. The people probably come up with development objectives and the ICAD proponents come up with conservation objectives. This must be brought out into the open and linked. A discussion will ensue in how to marry the opposing groups of objectives. Here is where the linkages will be identified and nurtured. Linkages can become a reality if the people's objectives are married to the conservation objectives, with actual results in conservation of biodiversity.
4. Both the people and the project proponents must put together a tentative schedule for the realization of all the objectives from both sides. This will assure linkages are taking place. For example, after one year a guesthouse will be built for the people, and a resource management plan will be completed and implemented for the proponents of the project. This process will continue until all objectives from each side are linked and completed.
5. At regular intervals the two groups must come together and again scrutinize the objectives and activities that lead to the realization of the goals to see that they are still on track. At each interval, they must rank the activities and plan to implement the next phase.
6. Everything must be done together by both parties. This is because there is much suspicion and ill feeling from the landowners when they are left out of the picture.

*Everything must be done together by both parties.
This is because there is much suspicion and ill feeling from the
landowners when they are left out of the picture.*

WHAT MONITORING REVEALS

As described last year, 10 economic indicators are being monitored by the project and community representatives, to assess change over time. They include sales and profits of all businesses, customer satisfaction, community spending, and local capacity of individuals participating in each village





enterprise. All businesses have received a variety of training from project staff and have realized increased profits over the last year while spending in all communities has risen. To assess the hypothesized linkage between eco-enterprise success and conservation of biodiversity, project staff and community representatives monitor seven natural resource indicators including changes in sensitive biological indicator species and in natural resource use.

While economic indicators are rising, preliminary results do not indicate a proportional change in the biological or natural resource use indicators. While it may be that biological indicators may take much longer to show response to any changes in management practices, lack of change in resource use may suggest that the realization by WMA communities of the linkage of their natural resources to the continued success of the eco-enterprises is still in a very early stage of development.

As of the end of 1998, due to high staff turn-over rates, the only sites we have continuous data from are Maimafu and Haia. Still, the preliminary analysis of data collected so far from these two villages reveals some very telling facts.

1. The people who earned the most money from the eco-enterprises have generally been more conservation-minded (as indicated by the amount of wildlife they are hunting and selling).
2. The people who own the land where the research station is earned the most money.
3. The clans who are enemies with the clans who own the land where the research station is earned the least money.
4. Intense jealousy and rivalry exists among Maimafu clan members, which dictates equal participation.
5. There are no linkages made between conservation and development.

The people who earned the most money from the eco-enterprises have generally been more conservation-minded.

However these are only baseline data and as data accumulates over the years, trends that are indicative of linkages being formed with conservation and development might become apparent.

LOOKING TO THE FUTURE

We feel now that many more years of stewarded discussion and concrete examples of resource value, in addition to visitor feedback, will be necessary to



illustrate to the communities the linkage of the unique nature and value of their natural resources to the present success of their eco-enterprise activities.

But we plan to persevere and we are applying what we have learned. The future of the project will follow the above approach, especially in getting the peoples' objectives drawn up. All indications are that the peoples' objectives are development-oriented while RCF's objectives are conservation oriented. Both parties will be looking at marrying the two, and working out a schedule as to how both groups' objectives can be fulfilled. A management regime requires skilled and committed field and community development workers. People who enjoy doing their job are the most important asset that RCF can have to work with the community members. Although funds are necessary, without good, deeply committed people to implement the plans, funds are nothing.

Story: Each team member has contributed to this story, which was written out by the following people: John Ericho, RCF General Manager. John spent two years (1995-1996) living in the village of Herowana. He became the Senior Project Manager in 1996, the Acting Manager for RCF in 1997 and General Manager in 1998. John has a Postgraduate Diploma and a B.Sc. from UPNG in Biology. Arlyne Johnson, RCF/WCS Technical Officer. From 1994 to 1998, Arlyne was the mainstay of the organization, taking it through thick and thin. She was called to go to Laos in August this year, but even now continues to work for Crater Mountain — whether she likes it or not!

BCN Commentary:
Nick Salafsky, BCN Senior
Program Officer, Washington, D.C.



16

Learning Conservation Lessons the HARD WAY

A scientific and adventure tourism project runs into many difficulties, and generates important lessons from the experience.



What's Happened Over the Past Year?

This past year was tough for the Lakekamu Basin project in terms of both implementing project activities and maintaining community support.

Limited Project Activities...

Owing to FPCD's difficulties in getting project funds, not many project activities were carried out as planned. Our primary activities involved keeping the research station functioning and continuing training for two local field assistants (the third left voluntarily) at the station. They are catching up very fast. A few scientists came to use the station, such as Dr. Bruce Beehler, who came to survey birds and tree species in the research plots.



LAKEKAMU-
KUNIMAIPA BASIN,
PAPUA NEW GUINEA



PARTNERS:

- .. CONSERVATION INTERNATIONAL (CI)
- .. FOUNDATION FOR PEOPLE AND COMMUNITY DEVELOPMENT (FPCD) (FORMERLY FOUNDATION FOR THE PEOPLES OF THE SOUTH PACIFIC-PNG)
- .. WAU ECOLOGY INSTITUTE (WEI)





Marketing the Research Station

One of the main reasons that the research station had only a few scientists using it was that it has not been sufficiently marketed. Although most of the researchers who have been to the station are very enthusiastic about it, there are not a lot of people who know about it. Furthermore, the station has to compete against other established tropical research stations elsewhere in the world. The station has the advantage of being the only lowland tropical forest research station in PNG. But it also has the disadvantage that conducting research in PNG is very expensive compared to other tropical countries. And because the site is so new, there is little established background data that researchers can use to plan and implement their work.



HANK CAULEY

Owing to FPCD's difficulties in getting project funds, not many project activities were carried out as planned.

We were also able to send two landowners, Peter Wiyapango (Chief Landowner) and Alex Moses (one of the trainee research assistants) to Lae to attend a Tree Kangaroo Workshop. They were really appreciative of the opportunity they were given to attend such a useful training. Such opportunities could make them support conservation efforts. One other training conducted by FPCD's Literacy Program and Wau District Office in Tekadu and Kakoro focused on cooking, agriculture, and sewing training sessions. This training was a success — people were really enthusiastic about the training they received.

The Kakoro guesthouse continued operations, although it did not have many visitors. The Tekadu guesthouse is nearing completion, but is already being used by the Integrated Conservation and Development (ICAD) project staff. We also developed a few outreach efforts: We published the FPCD Newsletter and Annual Report, Thomas gave a talk on Karai Radio; CI published the results of the Rapid Assessment Program biological survey of the Basin that they conducted.

...and Difficult Interactions With the Community

In a meeting held between project staff and the local people at Tekadu village in May, the fate of the Lakekamu initiative was discussed. It was the most heated debate ever held in the life of the project. The village was divided into two groups: One of the groups supported the ICAD initiative while the other opposed it. We later learned that those who opposed the idea were a minority who were influenced by outsiders with other vested interests in the area. Those people wanted us to pay for the land on which the research station stands while the other group argued against that.

In the meeting, our staff tried to explain the nature of ICAD projects and how they work. We spent a good three hours in explanation of the ICAD process and the time lapse it takes to see the tangible results. We also highlighted other factors such as transport, our image overseas, funds, staff, and donor requirements.

Towards the end of the meeting, we were asked to pack up and leave the next day. We all agreed to do as they wished — we told them that we were only there to try to help them and we had nothing to lose except our tired efforts in setting up the



PROJECT OVERVIEW

What's at Stake?

The Lakekamu-Kunimaipa Basin is a vast 2,500 km²-area that contains the largest expanse of unbroken humid forest in the southern watershed of peninsular Papua New Guinea. The PNG Conservation Needs Assessment deems the area high priority because it contains healthy populations of wildlife and plants that have been depleted in other areas of their range.

The forests of the Basin are owned by members of four different language groups: the Biaru, Kamea, Kurija, and Kovo. Each group is further subdivided into clans. Although traditionally people lived on their own land, in the past few decades villages have developed around the airstrips in the Basin where there are also schools, stores, limited government services, and limited access to markets. The village of Kakoro is at the intersection of land controlled by three of the groups. The village of Tekadu is primarily in Kamea clan lands. Although the Basin currently has a low population, the population is growing rapidly and demanding access to trade goods and government services. Spurred in part by their need for cash, the local people are starting to explore options for developing their forest including industrial logging, mining, and the replacement of natural forest by monoculture plantations of oil palms.

What's Being Done About It?

To counter these threats, the Foundation for People and Community Development (FPCD) of PNG has been working with Conservation International (CI) and local communities to establish community-owned and operated scientific field research and adventure tourism enterprises in the Basin. The idea is to provide a substantial incentive for conservation of the area's biological diversity and to demonstrate to policy-makers at the national level that community management of ecotourism is an alternative to logging and mining.

The tropical forest field research station was designed to eventually include a central lodge, a mapped trail system, and a series of blinds for observing wildlife. The community members were supposed to provide food as well as portering and guide services to researchers. The adventure tourism enterprises were supposed to provide support for a walking trek that includes a rustic lodge near the airstrip and a series of overnight rest huts along the historic Bulldog Trail (the path followed by allied troops during the Second World War). Community members were supposed to be naturalist guides and offer support services. But not everything turned out as expected.



A Need to Truly Serve the Needs of Local People

In PNG and other parts of the Pacific, the local communities own the land and forests. One of the interesting aspects of this situation is that the project team can only stay and work at the site if the local landowners want them there. Although conservation and development projects everywhere profess to “serve the needs of the local people,” in PNG this concept needs to be taken especially seriously.

A New Plan

Although this project has had more than its share of challenges, the new plan that the project team has developed does a very good job of incorporating the lessons that the team has learned over the past few years. It will be interesting to see if the team will be able to implement it.

research station. Later, however, we learned that the discussion had continued once we had left and they came to a consensus and asked us to stay on. In this situation, we felt that the people did not see the role the project staff were playing and the future of their livelihoods. All they were concerned with was cash benefits they perceived we were making from the donors, which they probably wanted part of.

Towards the end of the meeting, we were asked to pack up and leave the next day. Later, however, they asked us to stay.

As a result of this meeting, we realized that we have 100% commitment from project staff and FPCD, but there is a lack of meaningful community support and participation. We have thus been moving forward with developing a revised strategic plan given the current situation on the ground. Reviewing the threats to the Basin shows that both logging to develop oil palm and expanding mining operations are dormant at the moment. So that only leaves the smaller threats of alluvial gold panning and gardening and hunting. This gives a chance to really get a plan into place. We hope to continue with the plan started with BCN staff. This plan is being finalized now. We are also hoping that we can sort out the relationship between CI and FPCD and move forward with our work.

CHALLENGES

This project obviously faced a lot of challenges. In the following sections, the project staff reflect on some of these challenges.

Creating Unrealistic Expectations

One of the greatest problems was not giving the community members realistic expectations. As John Sengo says, “I should have gone in as a volunteer, as a researcher, not as a field officer representing a project. When you go in as a field officer, people assume that you are only there to help them. They don’t realize that you may have your own agenda. We ended up raising their expectations way too high. We should have gone in and done realistic planning and held discussions with the people before getting the grant funds. As it is, the people were not involved in the project. They still don’t understand what the project is or what it is supposed to do.”

Sengo goes on to say “I should not have arrived on the plane with boxes and piles of supplies. People saw our bags and boxes of store-bought food and assumed that we were rich and had lots of money. We should have brought in one box of high-protein snacks and gotten the rest of our food from the village. My colleague and I only started doing this a couple of years later.”

Another way in which the project team created unrealistic expectations was by developing enterprises that had no customers. As Sengo relates, “After the



NICK SALASKY

If We Build It, Will They Come?

A common assumption in community-based enterprise projects is that if the business produces a product or sets up a service that a market will automatically develop. As this story shows, however, there is a grave risk in assuming that if the enterprise builds a guesthouse, tourists will come.

first year, we had a training session about ecotourism. One of the guys got all inspired and wanted to build a guesthouse. He organized his family and built the place. This was really hard. I was glad that he was showing interest, but I was worried about not having any guests come. They built the house and then they started asking when the tourists would come. I didn't know what to tell them. And this has turned out to be a problem. Only a few people have come and already the guesthouse is starting to fall apart. I feel responsible for what has happened and that I let them down. Even now, when I go back to the Basin, they ask me, "When will they come? Is there any news of tourists coming?"

They built the house and then they started asking when the tourists would come. I didn't know what to tell them.

"I think I should have told them more about marketing. How they would have to do their own marketing. I should have made sure they were adequately prepared for the potential results and that they had realistic expectations. And yet it's hard to stand by. We had problems with the logging companies and felt we couldn't discourage the people's interest. We knew that representatives of the companies were coming to talk to the people and we knew that we had to offer some source of income to the communities."

Working With Community Members

Another challenge involved trying to solve disputes between different clan members was that project staff were constantly called upon to try to resolve heated political disputes. As Sengo says, "I think you need to stay out of the politics." Furthermore, Sengo states that you can't force a project on the community, but instead have to work with communities that already show some interest. "In the first days, there were only two of the community groups



HANK CAULEY

interested in the project. We should have picked those two and worked only with them. It's no good trying to work with groups that aren't interested in the project. Again, if we had done a preliminary survey, then maybe we would have focused on activities, like raising awareness that would have been more helpful."

It's no good trying to work with groups that aren't interested in the project.

Sengo goes on to say "But you also need to be firm with the communities. Before we built the research station, the project director in Washington told me that I should sign an agreement with the community giving us long-term use rights for the land that the station is on. I didn't do it. I guess at the time I thought that it would be fairer to wait because the community wouldn't really understand what they were signing. They wouldn't know what research is and would be signing without full knowledge. It was my idealism on behalf of the community. Now, I think that we should have signed the agreement. It would have justified the dollars that we spent. There is nothing binding between us now and they can burn the station down if they want."

Management Problems

Compounding many of the other problems were the difficulties in relations between the various organizations implementing the project. As Sengo says, "In the early years, we had no in-country partner support. Our international partner was managing the project by remote control from Washington. Our



organization in Port Moresby was not fully committed to the project at that time. As a result, there were no links between the field, Port Moresby, and Washington, D.C. We didn't know what the hell was going on. I wrote a letter to the project director in Washington and I sent a fax saying we should follow the activity plan. But the assumptions in the plan were wrong in several instances. There were no clear goals and objectives. There was no listing of the duties and tasks that each group should accomplish. These problems go back to the lack of understanding that we had about the conditions in the Basin, the lack of planning we did, and problems with management."

From his perspective as project manager, Thomas Paka agrees. He says, "I could have done a better job supporting the project in the little things like keeping accounts and getting supplies out to the field. But I could have also helped in managing the overall project better. I should have reviewed the proposal more carefully and figured out what was possible and what was not. I should have helped the field staff prioritize their thinking and made things easier for them. There is a dilemma with conservation and development projects. Project plans are written to please the donors. And then the funds come and the plans aren't always realistic in the project context. The situation in the field is always different from the situation portrayed in the proposal. So the people in the field don't necessarily understand the plans. I should have helped the field staff to change the project. And I should have done a better job of linking field monitoring information to the reports that we were doing."

Project plans are written to please the donors. And then the funds come and the plans aren't always realistic in the project context.

Paka goes on to say, "It's hard for the guys in the field to do good monitoring work when they are so busy with other things. I should have been preparing the monitoring forms. I should have made them easier for the field guys to use them. I should have realized from the information that I received that the project was not viable and that there was not enough community support."

Communication

Related to the management issues were difficulties in communicating between Port Moresby and the Basin. Paka says, "I think perhaps that this project should have been managed from Wau. This would have given us better contact with the project on a regular basis. It would have also kept us from being sidetracked on other issues. Communication is very tough because Moresby is so far away from the field. As one example, we would send cash advances out to the field and no receipts came back. So because of this communication breakdown, we couldn't do our reports. The field guys were scared to post the receipts because they thought they would get lost. But there is no other way to send them. So they just piled up."

Nobody's Baby

One of the biggest problems that this project had was that the main person who designed it took another job a year after the project started. The project was thus "orphaned" in that it received little support from the higher levels of the organizations that were supposed to be managing it. This lack of support proved to be very frustrating to the staff in the field.



Who Is the Important Client?

Paka's story illustrates what seems to be a common perception among field staff — that they are the “lowest level” in a chain that leads up to the donor at the top. Orders flow down from the donor at the top, through the various levels of bosses in the hierarchy, to the workers at the bottom. In conversations with the project field staff, we agreed that perhaps a better image was that the field staff were the “front-line clients.” Under this model, the various organizations behind the front line should be seen as their support network, providing the funding and other assistance that they need to do their jobs well.

Pressures to Please the Donor

Finally, the project suffered because the project staff felt they were under a lot of pressure to please BCN as the donor. Paka states, “I had difficulties understanding what my bosses and BCN as the donor wanted. I was in a dilemma because we needed to use the BCN funds to support the project. I understood that BCN is doing this hypothesis testing and that there was an emphasis on enterprises. I felt that because of this focus, BCN would not want to change the project and that I shouldn't mention the problems I saw with the enterprise to the folks in Washington.”

I felt that I shouldn't mention the problems I saw with the enterprise to the folks in Washington.

Paka states, “I should have looked at examples from other countries. I should have talked to BCN. I should have told them that they can't use projects in other parts of PNG or the world as a measure of our success. That they should not judge our success by the successes of other projects. We need to develop our own measuring stick.”

SUCCESSSES

Although the project had its share of challenges, it also had some successful moments.

Learning to Say No

Sengo feels that perhaps his most important success was learning to say “no” to the community. He states that the best thing he did was, “I told the community members to ‘go to hell.’ It was pretty recent, in May. We were having a big



NICK SALASNY



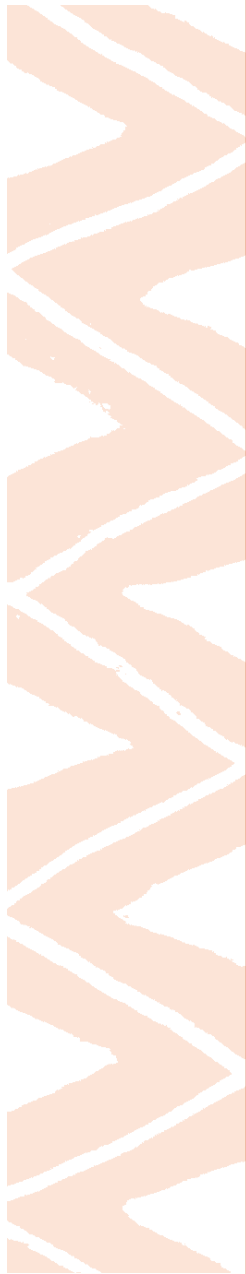
HANK CAULEY

meeting at Tekadu. And they all came with their complaints. They said that after three years, Cosmas and I had done nothing. We worked hard, we got them the bank money to fund their projects and they had no appreciation. Finally Peter, the landowner of the site where the station is, said that we should pack up and leave. I didn't try to justify myself. I just said, that I was the first person to come here with the project. In line with your wish, I'm going. If you want help, ask your children. I'm from the Sepik and I don't need to be around here. So I got my bag and left."

The best thing was that "I told the community members to 'go to hell.'"

Maintaining Community Respect

Sengo feels that another success was his ability to maintain the respect of the community. As he says, "Another smart thing that I did during my time in the Basin was to stay out of the local women. This won me a lot of respect from the local community. The community saw Cosmas and me as very different from those other government and company officers in this regard. I feel it is the easiest way to lose the respect and cooperation of the community. In my assessment, the relationship between me and the community was very important. Building that respect and understanding was probably one of the best accomplishments I have to show for my time."



LESSONS LEARNED

Paka outlines the key lessons from the Lakekamu experience.

1. Among all of FPCD's programs, the ICAD program seems to be the most complex of all. The concept is new, as are the staff members implementing the concept.
2. Lack of independent knowledge of the ICAD process and subsequent lack of meaningful cooperation from the majority of the landowners have been a great hindrance to our program.
3. Unless the host community plays an active role in the project, our efforts are sure to be of no effect.
4. Lack of government goods and services increases the people's demand for us to provide such goods and services.
5. More awareness is required on the process of ICAD projects.

Nonetheless, despite these challenges, when asked whether enterprise-based approaches can lead to conservation, Sengo says, "I think it can work in certain situations, even in Lakekamu. It can work if the community is interested. It depends where the initiative starts. It depends on the education level of the community. I visited Kakoda. That community is very different. They are aware of the problems from the oil palm plantations. They want some support so that they can do it themselves. But we also have to be tougher. We need to streamline things and stick to our plan. But we also need to be able to change our plan. The real world is not like school. Things are not easy."

I think enterprise-based approaches can work in certain situations, even in Lakekamu. It can work if the community is interested. It depends where the initiative starts.

LOOKING TO THE FUTURE

In the future, the project team plans to develop a new strategic plan for working in the Basin. The team hopes to concentrate on working with the Kamea and Biaru people. The real challenge will be to see if the team can benefit from the difficult lessons they have learned.



NICK SALAFSKY

Things Are Not Easy

In many ways, this simple phrase sums up a lot of BCN's experience. But the fact that things are not easy makes it all the more imperative that projects take an adaptive approach and try to systematically learn from their experiences.

Story: Adapted by Nick Salafsky from original material written by Thomas Paka, FPCD, Port Moresby and an interview with Thomas Paka and John Sengo of FPCD, also published as "If I Knew Then What I Know Now" Lessons From the Field, No. BCN-I.

BCN Commentary: Nick Salafsky, Senior Program Officer, Washington, D.C.

17

Buying Chainsaws to Save the RAINFOREST



NICK SALAFSKY

A local NGO is helping communities develop their forest resources, which has kept them from selling to the large logging companies. Clan politics, however, threaten this success.



What's Happened Over the Past Year?

The Community Eco-Forestry Projects have, in general, continued to operate successfully in 1998 and 2 new projects have been started. PHF now has 12 operating Projects of which 3 are in their initial Startup Phase, 7 have progressed on to a Consolidated Management Phase, and 2 have reached the Independent Phase. In 1998, the land area effectively protected from destructive industrial logging by PHF's Eco-Forestry Programme increased from around 120,000-ha to almost 150,000-ha. All the project communities have benefited from the introduction of new skills, from new income generation, and from the general awareness raising on environmental and health issues, all of which are integral to a Community Eco-Forestry project. On the financial side, despite the vagaries of the weather, to date in 1998, a total of K 24,500 (U.S. \$14,884) has been cleared from the outstanding loans provided by PHF to the projects to cover their start-up costs.



EAST NEW BRITAIN,
PAPUA NEW GUINEA



PARTNERS:

- .. PACIFIC HERITAGE FOUNDATION (PHF)
- .. EAST NEW BRITAIN SOSEL EKSEN KOMITI
- .. INDIVIDUAL AND COMMUNITY RIGHTS ADVOCACY FORUM (ICRAF)





Matching Grant Funds to Specific Impacts

Strictly speaking, BCN funds have primarily been used to support the six sawmill projects in East New Britain province. However, like many groups implementing projects, PHF has had to combine funds from different donors to implement their overall program. And there are certain costs (such as the salaries of core staff) that are shared across all 12 projects supported by PHF. It is clear that PHF does not draw distinctions among these different projects. While this lack of a one-to-one match between donor funds and specific projects makes it difficult to say with certainty that a given amount of support from BCN led to a specific conservation result, it also means that BCN funds are having a potentially wider impact. There is clearly a tension between a donor's need to show a demonstrable impact and an implementing group's need to allocate funds to wherever they are most needed across their entire program.



NICK SALARBY

Monitoring and training continue to be a vital part of the Eco-Forestry Programme. People in PNG tend not to remain in one place or in one occupation for long periods. A manager in an urban center, for example, may disappear back to his rural home for several years at a time. This culture is reflected in the sawmill workforce, which may change from one year to another without pre-planning or the opportunity for skills transference. This means that PHF must go back into the community, and train new workers. As the 'pool' of skilled labor is built up in each community this constraint should be remedied. Already it is being seen that skilled workers in the communities, and particularly the project managers, are transferring skills and giving training within the communities without PHF's input.

These project activities have taken place in the context of the Asian economic crisis, which has had a dramatic impact on PNG in 1998. The falling demand in Asia for timber and the consequent decrease in world prices for lumber have affected the financial viability of some industrial logging operations and some have been temporarily closed. But rather than protecting the forest from exploitation, this has allowed the logging cartels to pressure the government to lower or remove taxes altogether and to remove environmental constraints. Logging continues, the tax returns to the government are lower than ever, and the environmental damage only increases.

Socioeconomic Indicators

The success of the Community Eco-Forestry projects continues to be judged from socioeconomic indicators, and in particular, the rising housing standards in project communities and other associated indicators of development.

In Lak in New Ireland Province, where a chainsaw mill was introduced in February 1997 and upgraded to a more sophisticated Lewisaw in May this year, there are the first-ever pit toilets, built with project timber, and a successful women's poultry project.

In Wide Bay, the improvements to housing continue with both more permanent materials and better weatherproofing. Illi has now purchased a second truck from the proceeds of the sawmill and these provide both a passenger and a cargo service for both Illi and Merai to Kokopo and Rabaul. Illi and Merai both now boast small trade stores that sell a variety of local and imported goods. These have been made viable by the increasing amount of cash that the sawmill project has brought into the communities and the transport provided by the new trucks.



The Window Slams Shut

The onset of the Asian economic crisis seemed to promise the silver lining of lowering the demand for timber and thus temporarily halting industrial forest production. A number of environmentalists saw this halt as a potential "window of opportunity" in which we could perhaps organize a more effective opposition to the large companies, especially in small countries like PNG. Unfortunately, as the PHF staff note, this window seems to have been already slammed shut in PNG.

PROJECT OVERVIEW

What's at Stake?

The forests of the islands in Eastern Papua New Guinea (PNG), including New Britain, are home to outstanding plant and animal species, many of which are rare and endemic. But similar to so many of these last great wildernesses, the islands' natural wealth is being aggressively pursued by developers. Even though the rights of customary landowners to make decisions about their resource use is respected by legislation in Papua New Guinea, large foreign logging companies have been able to persuade local landowners to sell the rights to their timber for a fraction of its true market value. The landholders are currently facing some of the most intense commercial logging operations in the region, if not the world. And given their growing need for cash and government services, there is a strong temptation for the landowners to succumb to this pressure.

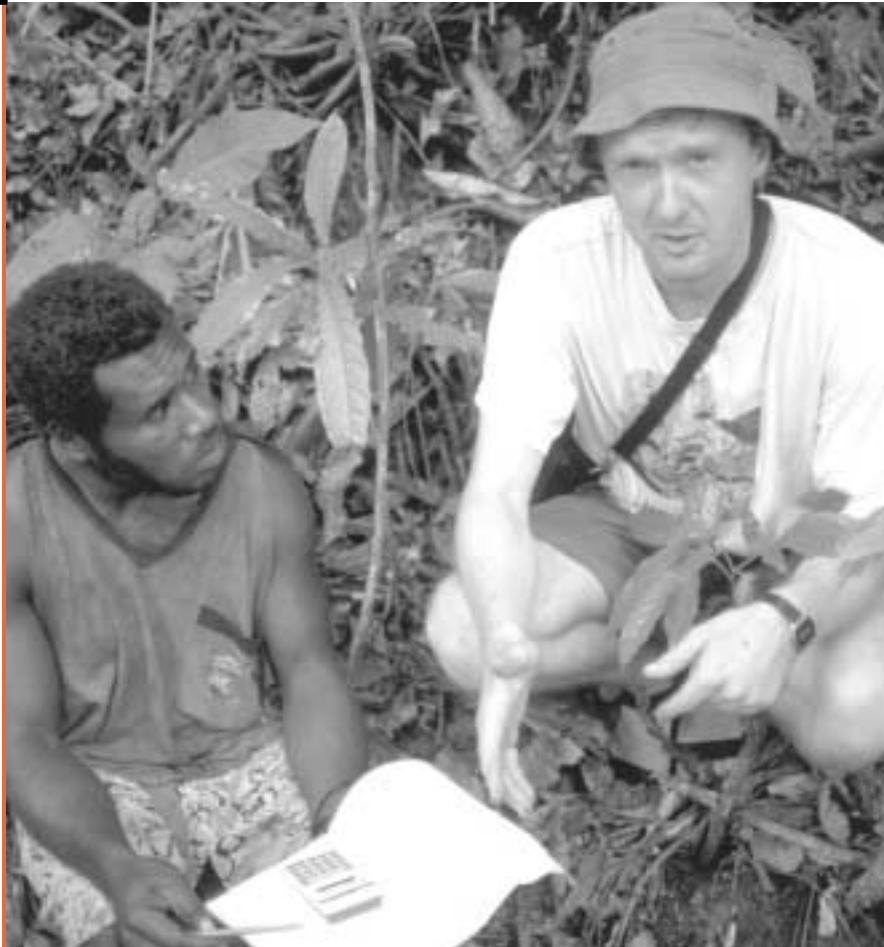
What's Being Done About It?

To counter these threats, the Pacific Heritage Foundation (PHF) and its partners are working to offer alternative sources of income to residents of six communities in East New Britain Province (Mu, Merai, Illi, and Murunga in the Wide Bay area and Arabam and Riet in the mountains) and additional communities in New Ireland, East Sepik, and Eastern Highlands Provinces. In particular, the projects help the communities to set up and operate small-scale timber production enterprises using portable or "walkabout" sawmills. The aim of the PHF projects is to demonstrate the sustainability of these small-scale timber operations. The project's primary objectives are to reduce the decline of forest resources by supporting community-owned sawmill enterprises, to generate returns to communities from the sustainable use of their resources, and to help communities obtain extension, technical, social, and legal services. PHF also supports social and biological monitoring work and conducts education and awareness training efforts.



Connecting to the World

The economic importance of these trucks cannot be underestimated. The trucks provide the communities with ways of getting their coconuts and other crops to markets in the provincial capital of Rabaul and the trading port at Kokopo, thus greatly multiplying the financial impact of the sawmill benefits. The trucks also provide an all important psychological connection with the outside world. In many cases in PNG and other parts of the tropics, local communities sign on to large-scale logging projects in large part to try to get road access to the outside world.



NICK SALASKY

In the East Sepik, the sawmills at Yerakai and Beglam have both provided the income for the communities to purchase new outboard motors for their large wooden canoes. These canoes provide the only transport for people and goods in the region.

The projects have also been selling timber to local government councils for community development projects such as the double classroom in Iwai and teachers' housing at Karalai vocational school. Local timber is also being used to build new copra and coconut fermentaries, allowing value to be added to these cash crops at the rural community level.

All these structural improvements come on the back of previously reported school and aid post construction in the projects in East New Britain.

SUCCESSSES

Tamogavisa — Setting up a New Business

With PHF's long-serving District Extension Officer, John Yagu, in close attendance, PHF was confident that it could properly monitor and train in this new



Community Eco-Forestry project. A Land Management Plan was drawn up in February 1997 together with a business plan and cash flow charts.

A Lewisaw Mill was delivered to the community in May 1997. The K 30,000 (U.S. \$18,226) cost of the machine, tools, and initial fuel and oils was jointly financed. The community were able to put up a K 6,000 (U.S. \$3,645) deposit, a commercial loan from the Rural Development Bank provided a further 40% of the cost, and the rest came in the form of a loan from PHF. Initial training was given in the community by PHF staff and a technician from Narapela Wei, the Lewisaw agent in PNG.

Initial production has been good, averaging 11 m³ per month in the period up to June 1998. Around 90 m³ of timber has been sold into the market at around K 300 (U.S. \$182) per m³, giving a total income of some K 27,000 (U.S. \$16,403). The rest of the timber has been used in the community. One of the first major customers for sawn timber was the local school. Interim accounts posted in May showed that they have made loan repayments of K 3,500 (U.S. \$2,126), showed a net profit of K 3,000 (U.S. \$1,822), and have sawn timber stocks with a value of K 2,700 (U.S. \$1,640).

Lak — The Need for Small-Scale Projects

A project started in 1997 with a Westford Rail Mill was able in May 1998 to deposit K 20,000 (U.S. \$12,150) for two-thirds of the cost of a more sophisticated Lewisaw. They took delivery of their new machine in June. Despite their isolated position and the difficulties of transportation and communication, the people are showing what can be achieved, and they are doing so on the doorstep of Nuigini Lumber's industrial logging operation in the Lak Timber Rights Purchase.

Lak was the Integrated Conservation and Development (ICAD) project abandoned by the United Nations Development Programme (UNDP) after three years of efforts and very high expenditure. We were critical of their approach to the project from the beginning, despite the high quality of staff and the money available (and spent). Without seeming to be too biased we believe that PHF's approach would have been more successful at far lower cost and we believe that the future will bear this out.

Mu — Increasing Access to the Forest

The long-awaited bulldozer access tracks were constructed in Mu in March and April. These have considerably eased the difficulties of the community in accessing its forest and have increased the enthusiasm of the workforce. The two tracks are only two meters wide, small enough to be routed around standing timber and, by observing terrain and drainage constraints, they have been established without permanent damage to the forest ecosystem. PHF has also loaned the community a tractor on a temporary basis. Subsequent production levels have been around 14 m³ a month.

Grants or Loans?

In most of the world, enterprises are initiated using capital from loans. Because of the way the BCN program was structured, however, we could not provide loans, but only grants. If we were to do things over, one thing that we would do is ensure that a higher proportion of our funds were provided in the form of loans as they seem to provide better incentives for the enterprises.

The Value of Failure

Whether the PHF approach will work better than the UNDP's remains to be seen. It is interesting to speculate, however, that the community members might be more receptive to PHF's efforts because they have seen the failed UNDP project. In a number of BCN sites, it seems that one of the predictors of enterprise success is actually the presence of an earlier failed effort that tempers local expectations and gives them a model of what not to do.



Increasing Production...

But Lowering Sustainability? — The project in Mu has been very successful to date, but was starting to stall because of the difficulty in transporting timber out of the forest to the loading site. The community wanted to use the bulldozer track to transport timber out of the forest. Unfortunately, building a track means that more trees have to be harvested to amortize the costs of building the track and obtaining a tractor. Furthermore, the need to cut timber near the track makes it harder to move the sawmill around, mimicking natural tree gap patterns. It will be interesting in the future to see whether the small tracks that the project is using will indeed avoid permanent damage to the ecosystem.

It is also interesting to compare this project to similar timber projects in Indonesia where (presumably due to higher population densities) people are willing to work a lot harder for less money, thus making it more feasible to use manual labor to haul out timber over long distances. Another option might be to develop a gravity-based log chute, as has been done by other community logging projects in West New Britain.

For all these communities the challenge that lies ahead is to maintain the initial enthusiasm that a project or associated development brings and to continue to work hard in production and in marketing.

Integrated Approach

PHF has had a long and complicated relationship with community of Arabam, which has flirted both with the loggers and an integrated conservation and development approach. As reported last year, while Arabam had steady production from their portable sawmill until the end of 1996, since then their production has halted. Divisions within the multi-clan and multi-language community have meant constraints to access forest resources and heated discussions as to who should receive benefits. The directors and project manager are attempting to settle the disputes but they have come to a standstill in timber production. They express their worries about the long-term consequences of logging on their land, yet would appreciate a road network into the forest reserves. The community is struggling to resolve the land disputes and to decide whether to resume the sawmill operation.

Inter-clan disputes and private logging deals have all clouded the picture. One clan, however, has always stood firm against the loggers and when their land was encroached in 1997 PHF was able to assist. PHF arranged meetings with the Forest Authority and the logging company was ordered to stop its



NICK SALASKY

operation. The company initially did stop, but then suddenly they were back and 1000 hectares of forest had been illegally destroyed. The Forest Authority has neither the resources or the political will to counter this type of action, but PHF, with its legal team of three lawyers, has been able to launch litigation on behalf of the landowners seeking compensation of 5.5 million kina.

CHALLENGES

The Melanesian Way

To work in Melanesia you have to accept that a community project is not going to function for five days a week through 48 weeks of the year. People's priorities are different and family, clan, and spiritual life all come before work and the lure of money. The sawmill may not operate for three or four weeks at a time but you cannot afford to become frustrated or annoyed. The project can still be profitable and bring ancillary benefits and yet still preserve the whole culture and approach to life. We are careful to try and work with what is here already and not to destroy it.

Hard Decisions

Karong is a coastal community on the southwest coast of the island of New Britain. It has more than 100 km² of virgin rainforest that it wants to sustainably harvest and it has approached PHF on a number of occasions for training and assistance.

PHF has conducted a full participatory Rural Appraisal with the community and found the following problems:

- The community has no road access and poor sea access.
- Nobody living in the community has been past primary school and there is nobody with any mechanical skills or business acumen.
- A lot of the forest is on steep, inaccessible slopes.
- Cash incomes are very low and there is little local demand for sawn timber.

The community wants development but is there the capacity or the right conditions for a sawmill project to operate successfully? How can we prevent the community from turning away and selling out to the loggers?

Story: David Samson and Timothy King. David has a Certificate in Tropical Agriculture, has been in charge of PHF's BCN monitoring program, and has been employed by PHF for four years. Tim is a qualified lawyer and forester working with PHF as a VSO volunteer.



Fighting Fire With Fire?

One of the biggest problems facing conservation efforts in PNG is the ability of the foreign logging and mining companies to exploit divisions between different social groups in the communities that they are dealing with. As the PHF project reported last year, "the normal method used by the loggers is to isolate a small group of so-called 'leaders' and deal directly with them." The companies can strike unfair deals with this small group and the other groups may then feel socially obliged to back their kinfolk even if they disagree with them. As a result, even a seemingly successful project can be rapidly overturned if a small group of people responds to pressures from the companies.

Conservation groups that do not follow such dubious practices may be able to take comfort in the fact that they hold themselves to a higher ethical standard, but this standard also in some ways compromises their effectiveness (at least in the short-term). One of the most interesting questions is to what degree (if at all) conservation groups should "fight fire with fire" and perhaps reduce their emphasis on consensus building and democracy in the interest of influencing key leaders. To do so is obviously to enter onto a slippery slope, at the bottom of which any and all means justify their conservation ends.

Knowing When to Say No

Although giving communities chainsaws and sawmills to "save the rainforest" seems paradoxical, it can make sense when the threat to the forest is large-scale logging by outside companies. But, as the PHF team correctly points out, this enterprise solution will only work if the community has the capacity to undertake the planned enterprise and can market its goods or services. In this case, the PHF team seems to be making the right decision by saying "no" to a project that does not seem like it will work.

BCN Commentary: Nick Salafsky, Senior Program Officer, Washington, D.C.



18

Fishing for ANSWERS

MIKE ORR

Design flaws make it hard to understand why, when a deep-sea fishery floundered, conservation still occurred.



SOLOMON ISLANDS

What's Happened Over the Past Year?

CHALLENGES

Subsidy and Management of the Fishing Enterprise

During 1996, two deep-sea fisheries centers were established in the communities of Waghena and Posarae. These have been operating since 1997, but at a much reduced level of financial viability than was originally expected. This is partially due to the problems that have been encountered trying to access regular transport to bring the fish to market. A small ship that was owned by one of the partner communities has recently been taken out of service, contributing to the problem.



ARNAVON ISLANDS, SOLOMON ISLANDS



PARTNERS:

- .. THE NATURE CONSERVANCY (TNC)
- .. MINISTRY OF FORESTRY, ENVIRONMENT, AND CONSERVATION OF SOLOMON ISLANDS
- .. MINISTRY OF AGRICULTURE AND FISHERIES OF SOLOMON ISLANDS
- .. ARNAVON MARINE CONSERVATION AREA (AMCA) MANAGEMENT COMMITTEE
- .. INTERNATIONAL CENTER FOR LIVING AQUATIC RESOURCES MANAGEMENT (ICLARM)
- .. SOUTH PACIFIC REGIONAL ENVIRONMENT PROGRAM (SPREP)





BCN's Analysis of the Fishery Enterprise

It can be extremely challenging for a community-managed deep-sea fishery enterprise to operate without sizable subsidies — especially during its first few years. In late 1998, BCN commissioned an evaluation to look more deeply into the obstacles that this project's deep-sea fishery faces. This economic analysis of the Arnavons Fishery Centers concluded that the infrequent shipping service to these remote islands resulted in a less-than-optimal catch throughput at the centers, leading to higher transportation costs and lower sale prices for a given quantity of fish than originally projected. This evaluation report makes specific recommendations on how the project may be able to reduce costs, strengthen operating margins, and minimize subsidy requirements. (See BCN's 1998 report entitled "Enterprise Analysis of the Fishery Centers in the Arnavon Islands, Solomon Islands.")

The future of the centers is now uncertain as the BCN funding for the project is nearing an end and the centers are not yet operating profitably. Our major concern is that when enterprises are started with short-term funding, insufficient time is allowed to learn from the inevitable mistakes and to weather the initial period of low cash flow. However, while the communities continue to demonstrate their strong desire to make the centers work, TNC and our partners will continue to seek funding to support the enterprise through these early learning stages. We believe it is worth helping communities find ways to utilize marine resources more sustainably than previously practiced.

Constraints in Getting the Product to Market

The transport situation has been one of the greatest barriers to the success of the fisheries enterprises. This is an integral part of the enterprise, as the fresh product must quickly be transported to the capital where it is then prepared for export. Our Enterprise Coordinator spends much of his time searching out ships to accomplish this goal. He often must tell the center managers not to take fish until he has located a vessel. He then rushes back to the office where he uses the radio to notify the centers that fisherman have a limited time to fill the bins with fish before the ship arrives to carry them to Honiara. This situation has resulted in the centers not being able to achieve the targeted throughput necessary to make them economically self-sustaining. The good news is that Choiseul Province, the province in which our two centers are located, has recently purchased a 200-ton vessel that should be making twice monthly visits to the communities. This large vessel with its favorable freight rates should be able to increase the capabilities and financial stability of the centers, improving considerably on the current ad hoc transport situation.

Our Enterprise Coordinator spends much of his time searching out ships. He often must tell the center managers not to take fish until he has located a vessel.

Poaching in the Reserve

The primary rationale for the initiation of the fisheries centers was to offset the communities' losses, both perceived and actual, from the "no take" reserve. These communities previously used nearby reefs for both subsistence and economic harvesting of marine resources. Unfortunately, isolated segments of the community have still made attempts to poach reef invertebrates, which they sell commercially. This has been a growing problem over the past year. During the early years of the project, the few times that individuals were caught, they readily admitted their guilt and shame and were open to hearing what our conservation officers had to tell them about the rules and reasons for the regulations enforced in the conservation area.

One incident this past year, however, did not follow this trend. A group of five men, diving illegally for a valuable shell in the conservation area, were

approached one night by two of our officers. Shining powerful underwater flashlights in the officers' faces, they threatened violence. The officers radioed for backup, but by the time other officers arrived in a second boat, the poachers had fled. This incident raised two concerns in our minds: first, the safety of the conservation officers, and second, whether this display of defiance and open hostility would intimidate our officers so much that they would be reluctant to approach boats sighted in the conservation area. Six weeks later, a boat was spotted in the area, and without hesitation our officers stopped it. They insisted the boat follow them back to the field station where they then searched the boat, confiscated marine products, recorded names, and attempted to provide awareness and education on the potential impact on this type of activity in the conservation area.

Shining powerful underwater flashlights in the officers' faces, five illegal divers threatened violence.



PROJECT OVERVIEW

What's at Stake?

The Arnavon Islands lie between the two Provinces of Santa Isabel and Choiseul of the Solomon Islands. Within this paradisiacal setting of white beaches, lagoons, and coral reefs lives an extraordinary diversity of marine animals. These islands are one of the most important rookeries in the Pacific for the endangered hawksbill turtle. They also support commercially valuable animals such as bêche-de-mer (sea cucumbers), trochus, black and gold lip pearl oysters, and giant clams, as well as different reef fish.

The area's cash economy has traditionally relied on harvesting these organisms. Three villages, Kia, Posarae and Waghena, use the Arnavons' resources. Each village is inhabited by a different ethnic group. Harvesting activities were traditionally carried out on an "open access" basis. In the 1980s prices for shellfish went way up and so did the temptation to overharvest them. In classic boom and bust style the stocks of different species were depleted, one by one.

What's Being Done About It?

In order to stop this overharvesting and to try to allow shellfish and reef fish populations to recover, The Nature Conservancy and several government ministries began to work with local community members to establish the Arnavon Islands Community Marine Conservation Area (ACMCA) in which there are prohibitions on the taking of key species of commercial importance. The project involves implementing a management plan for the area and a sustainable deep-water finfish enterprise at two sites to provide the communities with alternate food and income while taking the pressure off the reef species. Six community conservation officers (CCOs) - two from each village - monitor the project. This conservation area marks the first time that communities in the Solomon Islands have created a marine sanctuary, as well as the country's first cooperatively managed marine conservation area.



Unfortunately, one of the major causes that support and foster these occurrences of poaching is the difficulty we have had following through with prosecution of offenders. We now have outstanding cases that are more than two years old. The conservation officers do their part, apprehending and gathering evidence against these individuals. The police process these complaints and pass them along to the judicial branch of the government. Still, we have not yet been able to bring a single case to court due to a lack of magistrates to hear the cases and serve judgment.

Unintended Consequences

Well-meaning conservation efforts often have unintended consequences. This project was designed to promote deep-sea fishing as an alternative to unsustainable reef fishing. The project provided deep-sea fishing training and gear to local boat crews. During our 1998 site visit we heard stories that, in addition to the reports of invertebrate and turtle poaching in one of the three project communities, reef fishing was occurring in the protected area, using the BCN-funded project boats and deep-sea gear. To say the least, it was disappointing to imagine that these reports might be true. When questioned as to why this had happened, local skippers and fishermen explained that deep-sea fishing involved spending three days out at sea in bad weather and dangerous waters. This was less attractive than fishing the reefs closer to home where they could bring in comparable revenues for less fishing effort (at least in the short term). Reviewing the fishery center's catch purchase records for at least the previous few months, it became clear that the community center involved had been predominantly buying reef fish from the skippers. In April 1998 the project responded to this trend by passing restrictions on the center barring it from further purchase of reef fish. As a result, local participation in the fishery enterprise immediately dropped from approximately 50 to only 3 skippers. These results seem to indicate that the deep-sea fishing enterprise not only did not create enough incentive to stop the fishing in the protected areas in the reefs, but may have even contributed to it through the provision of fishing gear.

Reflecting on this discouraging situation, we revisited the project's original objectives. In their initial proposal, the project team did not include deep-sea fishing. This activity was built into the project, in large part owing to BCN's insistence on having a "linked enterprise" component in all projects. In retrospect, the unanticipated consequences of this intervention could have perhaps been predicted with a better project design process that focused on local conditions.

This story graphically illustrates what is perhaps the fundamental tension between BCN's two main goals. To achieve conservation, we should fund projects that have the appropriate mix of conservation strategies designed for the specific strategies at any given site. But to test our hypothesis, we must focus only on enterprise-based solutions. In this case, we may have well leaned too much towards the latter — with grave and unintended consequences for the former.



Why Is Poaching Occurring?

As a response to this growing problem in the conservation area, several very well attended meetings were organized and held in the community that seems to be the source of most of these activities. Representatives of the main project partners attended as well as local policemen from both of the adjacent provinces. Everyone reiterated the importance of the project, what it meant to the country in general as a model for conservation effort, what it meant to the local communities, and how a protected area affects a much larger area by providing habitat in which animals can safely attain adulthood and reproduce. People also pointed out that the few bags of marine products illegally harvested from the conservation area were jeopardizing the potential benefits that were earmarked for the entire community, and that, along with the benefits that might come through this association, certain responsibilities were also expected to be shouldered.

In the meeting, three specific questions were put to and answered by the community members as follows:

Q: Why were the violations of the conservation agreement happening?

A: Not everybody in the community is benefiting from the enterprise. And others are poaching, including conservation officers and members of other communities. We need more education and awareness. Segments of the population feel left out of the conservation project.

Q: What was the thinking behind these actions? What can be done to stop the problem?

A: More awareness and education is needed in the community. Other development projects that will include more of the community are necessary. Better representation on the conservation area management committee is needed. Local leaders should take more responsibility for enforcement.



JOHN PARKS

Q: Is the community interested in remaining a partner in the conservation effort?

A: We are definitely interested in continuing to be a partner in the project. We are also willing to take some responsibility for the actions of our people. We propose holding local meetings to talk to the young men about the problem and also request that the Council of Elders be notified of further incidents.

Peer Influence From Other Communities Can Be Powerful

Although we came away from this meeting feeling a renewed sense of commitment on the part of the community leaders, we were sure that continued efforts along these lines were in order. The South Pacific Regional Environmental Program (SPREP), one of our partners in the project, has a community-managed conservation project in Kirabati. The community that has been the source of this problem is one of the Gilbertese communities relocated here from Kirabati by the British in the 1960s. We thought that it might be valuable to organize an exchange visit between the communities in the hope that hearing and seeing what was going on in their historical home might provide motivation and a renewed interest in conservation and sustainable utilization of resources. So we invited a conservation officer from the project in Kirabati to visit. Mr. Bwere Eretaia is a highly regarded elder in his home, and he immediately received respect from the Solomon community. He was able to speak to the people in their own language (generally when we hold meetings, we speak through an interpreter) about tradition, conservation issues in general, and specific conservation efforts in Kirabati. He spoke eloquently about the difficulties people face daily because of living on coral atolls and the delicate balance between man and nature there. He told stories of the local control, management, and policing that is an inherent part of their project. I later heard people state that because of the use of the native tongue, "the message was heard

without barriers." We all believe that this visit was a worthwhile exercise and hope in the future to organize a trip to Kirabati for selected members of the Solomon Island community.

I later heard people state that because of the use of the native tongue, "the message was heard without barriers."

SUCCESSSES

The True Conservation Value of the Project

Although we continue to be faced with problems relating to the day-to-day management of the conservation area and the sustainable operation of the fisheries enterprises, positive effects throughout our community partners are many. Conservation in the protected area is taking place. Only a few years ago, whole families would camp on beaches for weeks at a time waiting for opportunities to slaughter nesting turtles, dive the shallow reef environment for marine invertebrates, and chop down mangroves for cooking and drying their harvest. Today, turtles can nest in peace on the small islands of the Arnavons group. Mangroves are growing back both naturally and in response to a replanting effort by our resident conservation officers. Even the previously depleted stocks of marine invertebrates are beginning to return to natural numbers. And there is a noticeable upsurge in the resident bird populations, including, in particular, the previously heavily hunted pigeons.

Only a few years ago, whole families would camp on beaches for weeks at a time waiting for opportunities to slaughter nesting turtles; today turtles can nest in peace.

All of this is due to the dedication and commitment of the many partners involved in this multifaceted conservation project. Representatives of three communities of differing cultural, historic, and religious background sit down regularly to discuss issues and ideas on how best to protect and preserve their valuable natural heritage. These same three communities were previously divided by feelings of distrust and often only came together in local courts to settle issues of dispute. Today a positive attitude of cooperation is evident as they work together to find solutions to the problems associated with the conservation area and the related enterprise development in support of protected regions.

Encouraging Local Participation in Enterprise Management


Fisheries Management Committees are taking an increasing role in the management and oversight of the day-to-day operations of the centers. With direction and input from our enterprise development coordinator, the committees



Hooking Answers in Unexpected Places

Despite the problems with the deep-sea fishing enterprise, the project is clearly achieving conservation. Local monitoring results indicate that female hawksbill turtles are once again returning from their ocean voyages to lay their eggs in relative safety — signs that recovery of the local population is underway. Marine invertebrate populations are slowly recovering thanks to the enforcement efforts of local conservation officers (COs) and project management. The extent of the recovery continues to be monitored by a team drawn from SI Fisheries, the local COs, and the Department of Environment and Conservation all operating under the technical guidance of ICLARM. External poachers have been caught by COs and reports have been filed with the appropriate government agencies.

All these results indicate that conservation can occur even when the core enterprise does not seem to be working. Is this because the cash subsidy to the enterprise means that benefits are flowing to the local village and thus conservation will stop if the subsidy is removed? Or is conservation occurring independently of the enterprise, as a result of the education, awareness, and protected area work that the project is doing thanks to the efforts of the Management Committee and COs? Trying to find answers to these types of unexpected questions will lead to a better understanding of how to do effective conservation. But to answer these questions, the project will have to systematically reevaluate the fundamental premises on which it is based.



meet regularly to discuss and make decisions about their respective operations. As issues arise, the members of the committees look less frequently for solutions from outside the community.

Follow-up construction continues at both of the fisheries centers. After last year's drought, it was decided that additional freshwater holding capacity was needed at the center in Waghena. Three large water tanks have been installed at the site. This should provide a constant source of water even during the dry season. Work progresses on the construction of deep-water wharves at both of the centers. Previously the cool bins filled with more than 100 kilos of fish and ice had to be carried out to the ship in small boats and manually lifted on board. The existence of a wharf will increase both efficiency and safety. Materials for this project have been obtained through donor funding, but the labor will be provided through the local community and the province.

Finally, Memoranda of Understanding were signed in May of 1998 with both of the communities where the fishing enterprises are located. These documents detail both the rights and the responsibilities of the communities regarding the fisheries centers. Also included in the documents are the steps that will be taken to turn over ownership of the centers to the communities. This is scheduled to take place on or around the 1999 New Year, but will be dependent on the development of management capacity.

This cash is spent in local shops, used to pay school fees, and to purchase large items like boats and motors.

Providing a Highly Needed Source of Cash Flow

Important aspects of the newly established fisheries centers can be seen in tangential benefits in the communities. Last year, the National Bank of the Solomon Islands (NBSI), after a reorganization program, closed all of its agencies in rural areas. This created difficulties throughout the rural provincial areas as cash flow and cash availability have practically ceased. Yet, in two of our partner communities, because of the presence of the fisheries centers, this problem is to a degree buffered. The fish caught by the newly trained fishermen are paid for in cash and money is funneled through the centers into the community at large. This cash is spent in local shops, used to pay school fees, and to purchase large items like boats and motors. The fisheries centers also offer the communities other benefits as well. Ice is available through the center both for personal local use as well as to pack and ship fish to the capital for sale on the domestic market. Communication has also been improved as messages are frequently passed through fisheries radios for members of the communities. Sea transport from the remote location of the project site has periodically been improved. Ships are encouraged to visit the two centers by the presence of chill bins full of fish from the centers. While in the area picking up the fish, they also provide transport services for people and cargo flowing both into and out of the communities.



MIKE ORR

Becoming Connected and “Cool”

Within some of the BCN projects, the community enterprise is often the only regular source of cash inflow for the participating residents. As the story demonstrates, in addition to providing cash, the presence of the enterprise also helps local residents develop access to goods and services that normally would be out of reach of isolated communities. People seem to often get a huge psychological benefit to this sense of being connected to the global economy — it can make them feel that they are no longer the “hick” residents of a “backwater” village. Although we in the developed world may take as something as basic as ice for granted, it can be a previously unimaginable luxury to rural village residents that both literally and figuratively indicates that they are now “cool.”

Monitoring Opportunities

In addition to the conservation benefits, the initial three-year creation of the marine protected area provided a good opportunity to investigate the utility of marine conservation areas as a fisheries management tool. With the support and involvement of the International Center for Living Aquatic Resources Management (ICLARM), the Great Barrier Reef Marine Park Authority, and the SI Ministry of Agriculture and Fisheries, we have been scientifically testing the assumption that closure of an area will enhance the rehabilitation of depleted stocks and the recruitment of new stocks to areas outside it. This is the first time that this type of work has been systematically conducted in a tropical Pacific-island environment.

Cautiously Moving Into the Future

The communities have expressed an interest in expanding the enterprises to engage more people locally. These include such ideas as: developing mariculture enterprises, using fish aggregation devices to target higher priced fish, using the fisheries centers as depots through which other products could flow, and using the power available at the fisheries centers for other activities such as making furniture. These ideas as well as others could help support these communities as well as bringing the fisheries centers closer to the elusive goal of financial sustainability.

LESSONS LEARNED

Our experiences with the fisheries centers lead us to take a cautious approach toward future activities. We feel that several mistakes made with the fisheries centers, if avoided, could prevent some of the problems that we have encountered.



“Subsidy” Is Not Always a Bad Word

At the outset, one of BCN's objectives was to establish self-sufficient enterprises that could pay for conservation. As this example shows, however, in some cases the conservation benefits of subsidizing an enterprise might outweigh the financial costs. Furthermore, even if an enterprise is covering only a portion of its costs, it still allows for the remaining savings to be placed into other conservation efforts elsewhere, thus assisting in the spread of funds available for conservation activities and maximizing conservation dollars.

We based our fisheries enterprises on a model already in place in the Solomon Islands. The European Union (EU) has been funding a Rural Fisheries Enterprise Project (RFEP) for several years. Our centers were essentially developed as clones of these other enterprises. After many years of operation and attempts to hand their centers over to local management, the RFEP centers still have not achieved fiscal solvency and continue to require monthly subsidies to continue operation. Our assumption was that the RFEP's goal was to achieve self-sufficiency and that the goal was attainable. This is not necessarily the case. The EU sees the many benefits that are provided to the communities through the presence of their centers and is willing to continue support to the centers as a community development project that may require long-term subsidies. We now need to decide whether we are willing and able to provide similar subsidies.

We now need to decide whether we are willing and able to provide similar subsidies.

A second suggestion relates to the size of the operation and the level of technology required to support it. The project has run into problems due to its dependence on efficiently operating engines, generators, and ice-making equipment. Difficulties arise when machines break down and parts and expertise to repair them are difficult to obtain in remote locations. Perhaps a simpler technology may have been more sustainable.

A third lesson is that concentrated community relations effort needs to be put into the foundation of any type of enterprise project. This effort is needed to avoid unrealistic expectations and to ensure that the project is homegrown and not the idea of an outsider who perhaps does not understand all of the social and cultural implications. What works in one community may not function the same in another.

Many of the...problems could be avoided if a sufficient amount of time were given to build enterprises from the ground up rather than from the top down.

A related lesson is that a go-slow approach needs to be adopted. Unfortunately, often due to donor and other resource availability pressures, this factor is ignored in response to deadlines. Ideas evolve and grow and require time to do so. Many of the previously mentioned problems could be avoided if a sufficient amount of time were given to allow both the communities and the project implementers to build enterprises from the ground up rather than from the top down.

Another lesson is that a good deal of effort needs to be put into making the connection between the enterprise and the conservation values that the project

is intended to support. This would be most effective if a solid foundation were laid at the outset of the project with regular reminders. In this case, the community was using fishery center boats to exploit the vulnerable reef fish and did not appreciate the fact that selling these fish was a short-term gain that could be devastating to local shallow-water fish stocks.

Finally, the dependency of the enterprise solution on factors that may be outside of the control of the project needs to be closely examined. Fish and fishermen may be readily available in an area, but without a dependable mode of transport to get the product to market, the project may have no chance.

Story: George Myers, TNC Program Manager, Solomon Islands.



Sunk Costs

As good “adaptive managers,” we know that when a project runs into problems with a conservation intervention such as the deep-sea fishing enterprises, it may be time to “cut the losses” and stop the enterprise. Economics states that “sunk costs” should not be used in making business decisions. Unfortunately, in the real world of community-based conservation, these decisions are not always so easy. The project team and the communities have invested time and effort in the enterprise. It may be incredibly hard to abandon it without suffering a damaging or even fatal loss of credibility and trust with the local community. As the project team rightly states, much of this can be avoided by going slowly and laying a solid foundation.

BCN Commentary: John Parks, South Pacific Program Officer, Washington, D.C., and Nick Salafsky, Senior Program Officer, Washington, D.C.

19

Award-Winning TOURISM and Unstandard OIL



DAVE RUSSELL

Villagers in the Solomon Islands struggle with bringing community-based businesses up to international quality-control expectations.



What's Happened Over the Past Year?

SUCCESSSES

Ecotour Operations Improved

Three successful tours ran in 1998. One was made up of donors and outside experts as part of an evaluation of the program, the other two tours were of mainly Australian tourists.

The organizational structure of the ecotour is strong and continues to improve. We have worked together with all the players to get solid costing figures for the ecotour — up until now we have been estimating. These costings are now on computer and are very robust in terms of the market value of the tour — we were actually underselling things before. The costing also builds in a 5% contingency in case of unforeseen events as well as a 10% margin for a "community fund" in the communities involved (which will be banked directly into special bank accounts on Makira). They will be able to use this money to tackle their own community priorities which has always been an objective of the enterprise, but has lacked the practical infrastructure to make it happen.



EAST BAURO,
MAKIRA-ULAWA
PROVINCE,
SOLOMON ISLANDS



PARTNERS:

- .. CONSERVATION INTERNATIONAL (CI)
- .. SOLOMON ISLANDS DEVELOPMENT TRUST (SIDT)
- .. MARUIA SOCIETY





Jessica Struble

We have learned the importance of forming partnerships with the private sector in doing enterprise development.

The ecotour is now much improved with the involvement of an in-bound tour operator, Solomon Sights and Sounds. We have learned the importance of forming partnerships with the private sector in doing enterprise development. Linking the local operator up with a private operator was a key step in making the enterprise 'sustainable' rather than being just a 'project.' However there is still a problem in getting the community organized financially (this problem has been an ongoing one and for this reason it may be due to a hidden sticking point rather than simply general confusion).

An Ecotourism Workshop held in Fiji was attended by local and CI staff, and we presented a paper on the Makira Ecotour. It was an excellent opportunity to network with others in the industry in the South Pacific. The Makira tour again stood out in terms of its conservation as well as business success.

Lastly, the in-country advisor, Roger James ran a new guides training course in September, which will also help consolidate the strengths of the ecotour.

Evaluation Confirms Ecotourism Program Is Thriving

The visit of a number of conservation and enterprise 'advisors' and donors (from the United States, New Zealand and Papua New Guinea) to the conservation area in mid April 1998 provided the program with a major opportunity for evaluation and adjustment. Several key findings resulted.

- All of the visiting experts confirmed that the Makira program is outstanding as an example of community conservation, and that vital relationships have been established with the communities. These relationships are particularly strong in the communities where the ecotour and ngali nut enterprises are active.



PROJECT OVERVIEW

What's at Stake?


Makira, one of the Solomon Islands, is important for its endemism — especially birds and large land-snails. This unique assemblage of wildlife evolved because the "oceanic" islands of the central and eastern Pacific were isolated for long spans of time during periods of high sea level. Yet Makira also retains relatively high levels of diversity related to the "continental" islands of the western Pacific.

External threats to Makira's ecosystems include large-scale logging and mining by foreign companies, as well as the introduction of invasive species from other islands or overseas. Mining especially is a threat, as ultrabasic copper-bearing rocks are present within the area. Internal threats include overharvesting of useful plant and animal species, locally-owned timber-cutting enterprises, forest clearance for both subsistence and commercial agriculture, and water pollution from fecal contamination.

What's Being Done About It?

The Conservation in Development Programme (CID) was formed during 1992 in eastern Makira following a nationwide forest biodiversity survey completed by the Maruia Society. Its aim is to protect 63,000 hectares of rainforest under customary ownership on Makira Island. The Makira Conservation Area contains 35 villages, a range of forest habitats from lowland to montane, and two large river catchments.

The project, which is the first of its kind in the Solomon Islands, is being undertaken by Conservation International in partnership with the Solomon Island Development Trust. The project team worked with the communities to define the area and to identify enterprises whose viability is linked to the need to conserve the area's biodiversity. The focus has been on ecotourism and extraction of ngali nut oil, which is used in the production of high-quality bath soaps and oils.

- 
- The program is at a critical stage in terms of developing a broader understanding and acceptance of conservation and sustainable resource management.
 - Strengthening the staff capacity to run aspects of the program will be critical for future success. In particular, this means mentoring and further training of existing staff as well as clearly defining their responsibilities. It will also mean recruiting more staff, particularly on Makira.
 - Getting on and trying out some participatory tools and techniques will be important in terms of working out what is going to work on the ground.

These points have all been followed up during 1998 in terms of the strategic direction of the program. We have learnt that it is certainly worthwhile having objective evaluation of the program from time to time — both in terms of encouragement as well as making adjustments.

We have learnt that it is certainly worthwhile having objective evaluation of the program from time to time — both in terms of encouragement as well as making adjustments.

Highlands Ecotour Wins Condé Nast Award

In May the Makira ecotour won an award in the prestigious Condé Nast Traveler magazine. Condé Nast Traveler is the premier travel magazine worldwide with a readership of around 9 million (perhaps due to the fact it seems to be in nearly every dentist's and doctor's waiting room in the United States). Each year, the magazine runs a worldwide competition for ecotour operators — and this year Makira received "highly acclaimed" status. When the magazine arrived in the village everyone was extremely proud to read their names and consider themselves world famous!

In May the Makira ecotour won an award in the prestigious Condé Nast Traveler magazine. In the village everyone was extremely proud to read their names and consider themselves world famous!

Cultivation of Local Leadership

During December 1997 and January 1998, John Waihuru visited New Zealand. John is a community leader in the Conservation Area and has a key role as a leader in the highland communities as well as being the Tour Leader for the ecotour. John's New Zealand trip had a major pay-off — one person in the area actually understands what conservation and tourism look like in a larger, more 'developed' country context. This is a major bonus and an important step as it is very difficult to explain foreign concepts to people of a different culture (in their second language), because it is hard to use appropriate imagery and vocabulary.



Promoting Conservation of Traditional Culture

The first workshop in cultural conservation took place in Hunama during August. The workshop was designed to draw out the wealth of existing information in terms of crafts and traditional knowledge, as well as to develop strategies to address the sustainability of this knowledge. The Kastom Stori (traditional custom stories) project resulting from the workshop has proved time-consuming because the language has never been formally written. However, Roger took his bulky tape recorder up to the highland village of Maraone and recorded stories from the old people. When all these stories were played back at Hauta village, the whole house was hushed, listening to them.

The programme has also finally started implementing the Village Resource Management Plan strategy in the conservation area. The major activity this year is documenting genealogy, as this is a key component for dealing with land disputes and the tangled web of customary land tenure. The genealogy work is a



cultural conservation activity in itself, as well as the foundation for organized and planned biodiversity conservation.

Visitors' Positive Experiences Benefit Students

A surprising outcome of the October ecotour was that four visitors were so overwhelmed by their experience that they offered to set up a scholarship for any student from Hauta School who passes the entry exams for secondary school but is constrained from going because of lack of money. The fund will pay tuition up to form five and two to three years at teachers training college. The objective is to have at least one young teacher from the highlands who will follow on from John Waihuru. This is just one example of the indirect community benefits from the ecotour.

Monitoring by Community Residents

The biological monitoring programme is going ahead at the initiative of the communities themselves! The Warihito part of the programme has completed the second year's data during July. The monitoring confirms that there are a lot of new ngali nut seedlings in the control area (the tambu site) — particularly because there are no pigs in there at the moment. There has been a loss of some mature trees due to them being burned (a recreational past-time for young men). It is really encouraging that they are continuing the monitoring programme because they are interested in the results, not because of an



Jessica Spaulle

externally imposed monitoring programme. The credit goes to John Parks of BCN, who set up the village-based aspects of the monitoring programme.

It is really encouraging that they are continuing the monitoring programme because they are interested in the results, not because of an externally imposed monitoring programme.

CHALLENGES

Roger James, the community conservation advisor for Conservation International (who lives on Makira and has recently married into the community) offers his personal perspectives on challenges faced in the field.

The People Factor

Living here has given me insights I would not have had otherwise. One is that people here work hard as hell, and have many commitments already that maybe we do not understand readily from our developed world lives, such as family obligations, community disputes, gardening and pig-feeding schedules, and just keeping the kids fed and the pots, pans, and clothes clean. Even holding a two- or three-day workshop creates an inconvenience for people, so we need to see that for what it is rather than feeling discouraged when only a few people show up. And again, extra activities such as writing kastom (traditional) stories or doing monitoring create extra burdens on peoples' time that I am sure we often do not fully appreciate. In the villages people are busy and live a low-tech time-consuming lifestyle.

Even holding a two- or three-day workshop creates an inconvenience for people, so we need to see that for what it is rather than feeling discouraged when only a few people show up.

In the Makira Conservation Area, there are two languages spoken, Kahua and Bauro. Bauro has two dialects, so there is not just physical distance separating the different villages of the conservation area, but also 'cultural distance.' And within individual villages there are the usual varieties of personalities with different interests. Ritual battles, ambush-style assassinations and cannibalism disappeared with the advent of Christianity in the mid- to late-19th Century, but conflict is still common in the form of suspicions, jealousies, and tall stories. Traditional leadership is in the form of a council of elderly chiefs who pass judgement on important matters, but the general guidance of the community rests with big-men who work under competition from rivals. Individualism and egotism can become well developed in such a situation. It is this 'people' factor that is the greatest challenge for conservation areas in Melanesia.



Monitoring Actions Speak Louder Than Words

At the start of the project, there was some concern that the community members might regard the BCN mandated monitoring requirements as an unwelcome imposition. Working with the community to develop a ngali nut monitoring protocol, BCN listened to the criticism and provided suggestions to the project team as to how the tree monitoring might be scaled back to be less burdensome or time-consuming on local participants.

Nonetheless, there was still concern from project partners that even the simplified nut tree monitoring activities were more burdensome than their perceived value for local participants. Little more on the subject was heard and we assumed the monitoring activities were dormant or dead.

However, during late 1998, project staff informed BCN of some recent good news: Apparently, some of the monitoring participants previously trained by BCN had independently completed follow-up forest surveys, analyzed the results, and discussed them with other members of their community. They had chosen to do this not out of obligation to the programme, but because they found the monitoring process to be valuable and rewarding. Their actions, along with similar actions by community members at other project sites, strongly demonstrate the value of community-based monitoring efforts.



Conservation Education Through the Lively Arts

Because of lowered literacy rates which are often associated with rural areas, communication of conservation issues or concepts through printed materials is often insufficient to get the message across. In Melanesia, local conservation NGOs with programmes like CID have overcome this communication gap through the use of lively arts. Not only are the lively arts a more culturally appropriate form of conservation communication than more western methods such as reports or workshops, they tend to be more effective at engaging the entire community in discourse, pulling in all age groups, education levels, and genders. The CID Programme uses its "Sei!" Theater Group to convey issues on conservation through rehearsed play action, often silent. During its site visits, BCN has witnessed how this creative, witty communication tool helps the project staff solicit open, honest group discussion on tough conservation decisions, and illustrate specific concepts of resource management as they relate to the project communities. Perhaps western conservation groups could learn from this and other time-tested and engaging traditions of the Pacific Islands.

Individualism and egotism can become well developed in such a situation. It is this 'people' factor that is the greatest challenge for conservation areas in Melanesia.

The Dispersal Factor

What is becoming much clearer is that the landowners of many blocks of land are very dispersed. Often, there can be secondary resource use rights to a particular area of forest that are held by others far from the conservation area. Under traditional law, these people have decision-making influences in this area, and thus must be consulted on any resource decisions. This is a real challenge in terms of using area-specific participatory approaches and developing resource management capacity within a particular site. The traditional tools of Participatory Rural Appraisal (PRA) therefore do not seem to be easy to apply within a dispersed landowner situation.

Cultural Distance Factors

Operating an ecotourism venture within land-owning communities can also be subject to cultural distance. In the project, this 'distance' is best demonstrated through a role play discussion, a scenario that was developed on Makira to illustrate the challenges of receiving outside visitors into the project communities.

- Godfrey:** How uncle? Look, I've just pulled up all these nice big taro. I'm going to boil them all up in a big pot for the tourists. Is that good?
- John:** Oh yes, that's very nice. But remember what I've told you about cutting it into small pieces so that it is easier for the tourists to eat. And maybe you could cook some cabbage or pumpkin in case they cannot eat the taro.
- Godfrey:** Oh true. Thank-you uncle. (sits down, stirs his cooking pot)
(Later that afternoon)
- John:** Hello. How is the cooking?
- Godfrey:** I'm boiling a nice big pot of taro. Look, nice big pieces too!
- John:** What!?!
- Godfrey:** One thing I want to ask you too, uncle. Last time a tourist took a photo of my dog. I hear he's going to sell it overseas for a million dollars.
- John:** Oh no. He just wanted to have a picture to help him to remember your dog, that's all.
- Godfrey:** Oh true. But why do the tourists come here when they are so rich? They must want to take something.
- John:** No, they just want to see how we live and to see our forests because both of these things are very special. You cannot see them in other places in the world.
- Godfrey:** Oh true. Anyway, I think we need a chainsaw.



Project Leadership Factors

The programme has faced a number of difficult staffing issues during 1998. An experienced manager left the programme, and two young women in the field married and moved away from Makira. In terms of recruiting new workers in the field, the lesson is that it is best to take on married men and women who are already demonstrating their commitment to community development in some way. In addition, training will now be done on Makira rather than in the distant and confusing capital of Honiara — where the training has too many distractions and is expensive.

The issue has come up of the need to select and train a new tour leader who could take over the present leader's (John Waihuru) responsibilities. John is clear that he has a lot to do and hence it would be good to have someone take over the ecotour responsibilities so that he can concentrate on conservation work. However, the issue of a suitable local replacement is quite a difficult one.

Quality Control Factors in the Ngali Nut Oil Production

The year 1998 has been an extremely challenging one for the nut oil enterprise. Late in 1997, a contamination problem arose in a major export of oil to the United Kingdom. Isolating the source of contamination has been quite complex. However, production is now back on stream. In addition, a new market for the oil has been secured in Australia; it has exciting prospects for the future of the fledgling enterprise.

The year 1998 has been an extremely challenging one for the nut oil enterprise. Late in 1997 a contamination problem arose in a major export of oil to the United Kingdom.

Sarah Wilson, the Conservation Area Project Manager with Conservation International's Melanesia Program, shares her perceptions on the issues.

"One thing struck me very forcibly while I was staying in the village in Warihito where the ngali nut press is situated. The hygiene standards that we are requiring for production of uncontaminated oil are totally incongruent with the existing living standards in the village. We have encouraged a super-clean and hygienic process for oil production, but people don't have any toilets, sanitary conditions are very low, bakua (a skin disease) is rife, and nutrition is poor. What kind of message does this give about the priorities of the conservation programme? The difficult lesson is that the successes of the enterprise have not readily translated into improved living conditions in the village. Future work will be more directly concerned with integrating the health needs of the communities into the conservation programme."

Quality Control: The Difference Between Success and Failure

Quality-control issues are of great importance in the production of both products and services. The importance of quality control in a product enterprise is graphically illustrated in this story where the entire enterprise was set back for a year or more by the contamination of the oil. It is also vitally important in service-oriented enterprises such as the ecotourism business. One reason the tourism business at Makira has been so successful is that project staff have placed a significant amount of attention and resources into the training of local ecotour facilitators to ensure a quality experience for visitors. Given that the vast majority of visitors are Westerners, the project staff has had to openly discuss tourists' expectations on food, lodging, and entertainment standards. These are sensitive issues since the local cultural practices of which local people are justly proud may not always conform to visitor expectations. Only through open, constructive dialogue on such quality-control issues have the project staff been able to address needs within the community enterprises and contribute towards ensuring their future viability. As a result of the energy devoted in this regard toward the ecotour, it is now recognized as one of the world's best adventure tourism destinations.



Pricing Expectations

This story graphically illustrates the perils of over-pricing resources at the onset of a project. Often, project staff need to establish a price for an input into a production process before they can then try to sell the final product. Or the project may find that an earlier (and perhaps failed) business has offered a higher price in the past. In either case, the community members may, as happened in this story, feel that they are being cheated when the enterprise has to subsequently lower the price they are willing to pay for the input. From a purely financial perspective, to avoid this problem, it is generally best to try to offer a low price at the outset, since you can always raise prices later. But within a community-based conservation setting, this can be difficult to do when social welfare concerns need to be taken into account as well.

The Importance of Diversification

In discussions with John Hingia (nut press manager) and Makario (chairman of the Nut Press Komiti), it is now clear that diversification is a very important strategy for the future of the enterprise in terms of providing greater market security. Current ideas include running trials for soap-making and peanut oil over the next months, as well as longer-term market diversification.

Re-Evaluating Pricing

In terms of selling the oil at the local (rather than strictly international) market, the real sticking point is pricing. A high price for ngali nuts has been established and as a result, we cannot produce oil at a price that is competitive with other similar oils. In order to be competitive, the price paid per kilo of nuts would have to drop. Dropping the price will be very difficult for the Enterprise Komiti because of the loss of face involved. The Komiti also anticipates that the people bringing nuts for sale will complain because of their perception that someone is making a big profit whilst they are losing out. Market realities are not easy to convey in a society that is used to barter rather than a cash economy.

Market realities are not easy to convey in a society that is used to barter rather than a cash economy.

TESTING THE ENTERPRISE-ORIENTED APPROACH

A key factor in gaining the landowners' support for conservation has been the provision of enterprises, namely ngali-nut oil pressing and ecotourism. It is not just the money coming from these enterprises, but also the trust they have built in the programme from the effort put into making them work, that is behind their endorsement. There is a risk however, that landowners can lose sight of the conservation ideal and simply focus on enterprise development. An informal evaluation in June 1997 showed that the conservation ethic was strongest in villages where two factors were combined: key leaders understood what conservation meant, and an enterprise that supported conservation had been developed.

The main lesson has been that if we are going to set up an enterprise with a 'community', then we must be fully prepared to understand and appreciate the culture of that community. 'Land tenure' and 'island-time' and 'rumors' are all part of the dynamics of the enterprise we have started. If we cannot take on board the community's culture, then it is going to be hard to comprehend, let alone resolve, the issues that inevitably arise.



LOOKING TO THE FUTURE

We have spent quite a bit of time thinking about the future of the enterprises and the conservation area as a whole. Our oft-stated objective is for the programme to be sustainable. The more we looked at the issues and discussed them with the communities and staff the clearer it has become that we must be committed to seeing decision-making and control of the enterprises devolve completely to the communities themselves. We acknowledge that this will not happen overnight. However, we have set a target of five years for devolution.

When we held a staff meeting to talk about the future of the Makira programme and a new vision for that work, the three Makiran staff — John Waihuru, Victor Kohaia, and Alfred Gari — were present. We discussed the subject of empowerment of Makiran communities. The three Makirans related as equals with their other Solomon counterparts and there was a strong sense of pride and purpose. Also, seeing John — as the man from the highlands — speaking out strongly for conservation was a very special moment for the programme. In order to work towards local control, a new team of 10 Conservation Area Community Workers have been recruited and briefed and a training programme for them initiated. These workers will be crucial in terms of building skills and confidence in the communities in the conservation area.

Story: Sarah Wilson, Conservation Area Project Manager with Conservation International's Melanesia Program. Sarah has also advised on conservation management in Papua New Guinea, Vanuatu, and China and has worked on conservation issues in New Zealand for 10 years.

The Need for Diversification

This story shows the importance of having a diversified portfolio of enterprises. Through the diversification of products, market risk is spread, benefit distribution increased, and participation maximized. When the ngali nut oil enterprise struggled, the ecotourism enterprise remained to provide benefits and an incentive to conservation. During the last three years, some communities in the highlands contributed the greatest volume of nuts to the oil operations while also being actively engaged in coordinating and facilitating tourism activities. These enterprising communities spread the frequency of their receipt of cash benefits over the year, generating cash for nut sales during certain harvest seasons and a share of the profits from ecotourism activities during other times in the year. It is not surprising then that it is these same communities who have some of the most active and vocal leaders for conservation of their forests.

BCN Commentary: John Parks, South Pacific Program Officer, Washington, D.C.



20

Drugs From the DEEP

JOHN PARKS

Against all odds, policies and high-tech know-how come together in the management of one community's marine resources.



Brief Grant Windows

From the start, BCN staff recognized that, at best, we would be able to provide only a brief “window” of funds for projects that would last 10 years or more. There is, however, an interesting tension between the need for substantial time to completely implement project activities and the need to try to develop “lessons learned” as soon as possible so they can be applied to pressing conservation problems elsewhere in the world.

Our project is one of the first biodiversity prospecting ventures in the Pacific. What is unique to this particular arrangement, however, is that the bioprospecting agreement arranged by USP benefits Verata’s local communities rather than operating exclusively at the national level. After consultation with the project advisory committee, the Verata Development Council, made up of local leaders and community residents, will decide how to use revenues generated from sample sales collected from SIDR.

Our project is one of the first biodiversity prospecting ventures in the Pacific.

CHALLENGES

Development of Bioprospecting Agreements

A major challenge for the project was the development of a suitable bioprospecting agreement. This required finding a pharmaceutical partner willing to enter into open contract discussions with USP, the Fiji government, and a Fijian community. The fact that none of these stakeholders had a policy on bioprospecting made things more complex. After two years of discussions, our original pharmaceutical partner, SmithKline Beecham, shut down their natural products branch just as we were about to seal the deal. We then turned our attention to finding a pharmaceutical sample broker with established policies and with whom an agreement could be reached fairly quickly. Although it still took a long time to find a new partner, in May 1997 the University of the South Pacific signed a bioprospecting agreement with the Strathclyde Institute of Drug Research of Glasgow. This agreement was scrutinized at regional, national, and international level and accepted by all. The foresight of the Rainforest Alliance in assembling an expert panel to advise on bioprospecting agreements greatly assisted everyone’s ability to reach resolution.

After two years of discussions, our original pharmaceutical partner, SmithKline Beecham, shut down their natural products branch just as we were about to seal the deal.

Project Time Frames...

Another major tension in the project seems inherent in most aid-funded efforts — the conflict between the demands of Western donors to have activities finished at fixed times, as opposed to the less exact time patterns of traditional communities. BCN has recognized this as well as it could with its planning grant phase. Nonetheless, due to the difficulties of developing bioprospecting partnerships and agreements, the early 1999 end to BCN means that a number of

project activities have not really had a chance to have their full impact or to become sustainable. "Lessons learned" meetings regularly conclude that a five year time frame is an absolute minimum for resource management projects in developing countries, with a 10-year project period more likely to produce sustainable results. The need to "rush" project activities often requires project leaders to cajole people to complete activities "on time."

The need to "rush" project activities often requires project leaders to cajole people to complete activities "on time."

...Versus Community Time Frames

The signing of the bioprospecting agreement between USP and the Verata communities has surprisingly just taken place. SIDR required an agreement signed with USP so the provisions involving the community were expressed as general-principle "whereas" statements in the USP-SIDR document (signed in 1997). A separate USP-Verata agreement detailing the bioprospecting provisions was prepared in early 1997 for community scrutiny.



PROJECT OVERVIEW

What's at Stake?

Fiji has one of the best developed coral reef systems in the Pacific. These reefs and associated marine habitats are home to hundreds of different species. But these reefs are also under severe pressure. Destructive natural processes such as reef bleaching and hurricanes have increased in recent years — possibly due to global warming. Land-based activities such as forestry and agriculture lead to siltation, which smothers the reefs. Some fishers use poisons, which stun the fish they are seeking, but also kill the corals on which the fish rely. And a growing population and desire for material goods has led to an increase in utilization of marine resources on which the people rely for cash, threatening these species.

What's Being Done About It?

Tikina Verata, a county near the Fijian capital of Suva and consisting of eight villages, is renowned nationwide for its abundance of marine resources. To address the threats to their resources, residents of Verata have joined with the University of the South Pacific to establish a unique bioprospecting agreement with Strathclyde Institute of Drug Research (SIDR), a pharmaceutical research group in Scotland.

The project began by helping the communities to develop and implement the biodiversity prospecting agreement. Community members collect and do preliminary processing of samples. Instead of simply selling the plant or animal samples to a pharmaceutical company, extracts are prepared at USP and then licensed for evaluation by the Scottish group to other pharmaceutical companies for evaluation. After one year, the samples may be further licensed by SIDR or returned to Fiji. Since Fiji is a relatively small country and the project participants have close contacts with appropriate government officials, the project has also been well positioned to influence government policy regarding prospecting at a national level as well as throughout the Pacific.



Making a Media Splash

The bioprospecting agreement between the local Verata communities and USP was signed on October 16, 1998, over a traditional Fijian kava drinking ceremony, hosted by USP and held in honor of Verata's village leaders. Covered by Fiji's national television station and local newspapers, the ceremony marked the culmination of over two years of continuous work by project participants, and has been heralded as a groundbreaking policy event for the Pacific Islands. The media representatives present were so impressed by the ceremony that they are discussing making a television documentary on the project.



UNIVERSITY OF THE SOUTH PACIFIC

In the meantime the overall approval of the project by the paramount Verata chief at public meetings where the project activities were reported was accepted culturally as a firm agreement. Scrutiny of the document by community legal advisors took a long time and it took even longer to present it at several levels of community meetings subject to final approval. Scheduling delays among key signers has resulted in a further delay of four months. While this may be of concern to Western observers, it has been entirely acceptable within Fijian traditional practice.

Scheduling delays among key signers has resulted in a further delay of four months. While this may be of concern to Western observers, it has been entirely acceptable within Fijian traditional practice.

Staff Turnover

In April of 1998, both scientific officers at SPACHEE, the local NGO partner in the project, left for other positions. Luckily, Akuila Sovatabua, a Verata elder who had long been involved with the project, was available due to closing of the Peace Corps in Fiji where he had been deputy director. He quickly became instrumental in raising community awareness of the project, holding presentations on both BCN and the project in all eight villages of Verata and its two primary schools.

SUCCESSSES

A Model for Community-Based Resource Management

Our greatest success story is the growing realization that local communities can make the decisions necessary to manage their biological diversity, especially in the Pacific where most traditional people have clear tenurial control over

their resources. The Verata/BCN project is widely seen as a very successful example of a community which, with minimal targeted assistance, designed and is carrying out a simple marine management plan. Other areas of Fiji and the Pacific are showing an interest in the "Verata model" and are asking project participants to advise and be part of new initiatives.

Other areas of Fiji and the Pacific are showing an interest in the "Verata model" and are asking project participants to advise and be part of new initiatives.

Revenues From Licensing Biological Samples

In 1998 we received the first payment from the licensing of biological samples. Collections began in early 1997, but there was a significant time lag as the samples had to be dried and ground, sent to SIDR in Scotland where they are extracted and then licensed to a pharmaceutical company. And since SIDR is receiving powdered samples from throughout the world, it seems to have a backlog of some months.

Because of this, in 1998, USP began doing the extractions themselves. Although this adds to the project's expense it will allow a maximum return within the BCN time frame. We expect that by the end of 1998, 250 samples which will provide an income of F \$102,000 (U.S. \$50,000) will be received by the community. In addition, a number of other agencies have contacted USP to discuss the possible provision of samples. These include the Universities of Utah, California (Santa Cruz), Illinois (Chicago), Hawaii, and Singapore. Agreements have been concluded with the first two. These partnerships, like the one with SIDR, include provisions for technical cooperation and development and not simply the licensing of crude samples.

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Establishment of Marine Tabu Areas

In 1998, three new villages in Verata voluntarily set up tabu (no-take) areas and began monitoring and documenting their effects. It is exciting for the Verata people to be setting up new tabu areas as a result of their own initiative. Although the data from biological monitoring is not enough to make any definitive conclusions, Verata people have noted that in the original tabu sites, areas that were bare rock before are now covered with a sandy substrate preferred by kaikoso (clams). One village also started replanting sea grapes, an important nutritional and cultural food that disappeared from Verata years ago due to



The Sincerest Form of Flattery

One of the simplest and best indicators of success that BCN uses is the replication of a project's approach by others. During 1998, we were pleased to learn that the Verata marine resource management and monitoring approach was being replicated at other non-BCN supported conservation sites around Fiji. Most excitingly, community leaders within Verata's BCN-trained biological monitoring team were, on a number of occasions, contracted by other conservation groups and government agencies to serve as trainers. Being tapped as trainers had the added benefit of increasing the confidence of the Verata folks while enabling them to share the lessons they had learned.

Bringing High-Tech to a Community Level

Given the complex and highly technical nature of bioprospecting, we have been impressed with the project's tireless efforts to maximize local participation in the production process. As shown in the accompanying diagram, the community has been involved not only in sourcing samples (including sample identification and collection in Verata) but also in processing them (including transporting, handling, drying, and grinding of samples at USP) prior to shipment to SIDR for biochemical analysis. Through this project, an effective partnership has been forged between local communities with the access rights to the samples, a research department within an academic institution to oversee the technical and logistical considerations of the enterprise, and a local conservation NGO.



Locally Designed and Managed No-Take Reserves

Community-managed fishery refugia, or no-take zones, are just beginning to be explored by international conservation organizations as tools for marine biodiversity conservation. Through funding three marine grantee projects, BCN learned substantial lessons in regard to how to effectively facilitate and sustain community-managed fishery refugia, particularly as they relate to fusing traditional fisheries management techniques with modern conservation science methods. A 1998 World Bank study on factors affecting the success or failure of marine resource conservation projects used Verata as a case study, conducting a week of study and interviews of participants' experiences and knowledge.



JOHN PARKS

overexploitation for commercial purposes. The women of Kumi village now buy the grapes from the market, eat the "fruits," and then plant the stems in their tabu area. They have noted that sea grapes seem to be starting to grow in this area. The community attributed all this to leaving the area undisturbed. It is also heartening to have people like Ratu Pio Radikedike, administrative village headman in Ucunivanua, speak in almost religious terms about how good they feel that they are doing something so their descendants will be bequeathed a healthy, fecund environment.

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Beginnings of a Natural Products Research Center

In 1998, USP developed two basic anti-cancer screens and several antimicrobial screens that enable us to screen extracts that show promising activity and prioritize them for local study. An initiative to develop local formulations of



useful medicinal plants is also underway. For example, researchers are studying *Senna alata*, a plant with well-known antifungal activity. They want to extract its active principles into a cream without losing its powerful activity. The project has provided the impetus for USP to become a center for natural products research. We hope that this work will be eventually institutionalized as a joint project of USP and the regional Fiji School of Medicine.

Growing Kava as an Alternative Income Source

Kava is a mild relaxant that has long been used by Pacific cultures. Increasingly, kava compounds are being used as Valium substitutes in the United States and Europe. Today, kava is the most lucrative cash crop in Fiji on a per-hectare basis. Two of the major international kava importers have now agreed to accept kava extract developed as part of this project work, this could give local farmers about four times the returns compared to just exporting the raw material. In the past, Verata has not grown kava in significant amounts, but now, the people are interested. A farmer from another Fijian island has agreed to work with the Verata people to explain how he has used kava growing to aid in village development and put less pressure on other biological resources. Because of the project, sellers are also getting a local assurance of the quality of their products. Using project machinery, the potency of kava samples can be analyzed at USP rather than relying on results provided by the importer.

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Policy Influences at the Local Level...

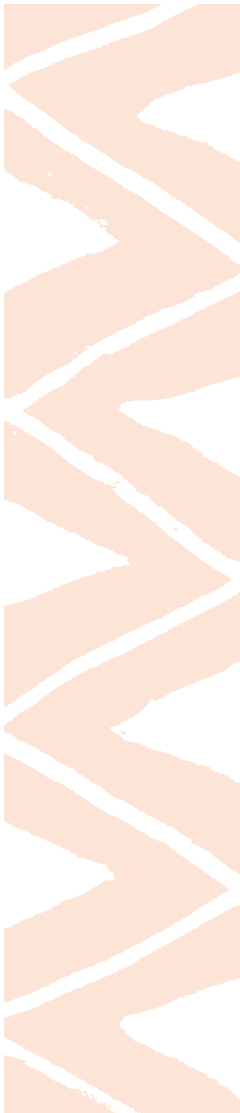
Project personnel need to spend a great deal of time participating in community activities to show concern about the community and respect for the culture and language. The project has always been fortuitous because although there has been turnover in staff and collapse of a partnership, these have usually led to replacements that have made the project even stronger. We were especially lucky to have committed village headmen such as Tomujani Boginivalu and Ratu Pio Radikedike to work with. Tomujani recently presented his concerns about coral harvesting in an area near Verata, to a Verata council meeting. The council endorsed these concerns, and presented a motion for a ban on coral harvesting to the Tailevu Provincial Council meeting, to which Verata belongs. The council also asked SPACHEE, which is the local NGO counterpart of the BCN project, to conduct a training workshop on the uses of coral. With the assistance of the Fisheries Department, the coral workshop was held for representatives of all Tailevu. The workshop recommended that coral harvesting cease in Tailevu, which was then endorsed by the Provincial Council.

...at the National Level...

In the first half of 1997, both USP and the government of Fiji approved detailed policies for research using biodiversity. We believe that these guidelines

Putting Eggs in Multiple Baskets

Community-based conservation projects need to develop a portfolio of enterprise activities, rather than rely on a single income-generating activity. In this case, if the search for potential samples yields no discoveries on promising compounds for drug research, bioprospecting could conceivably terminate only a few years into the project, halting enterprise operations (and thus the local conservation incentive) quite suddenly. To address these concerns and prepare for such a contingency, the Verata team is attempting to diversify its local revenue-generating activities, both within bioprospecting by attracting other interested prospectors to consider purchasing samples, and in other enterprise activities such as the kava extract and vutu nut production.



will help ensure that such research is carried out responsibly and that benefits are equitably shared. The Fiji policy, one of the first made by a developing country in response to the Convention on Biological Diversity (CBD) requirements, has not yet been passed into law. Nonetheless, several Fijian government agencies including the Agriculture, Forestry, and Fishery Departments have requested meetings with BCN staff regarding their bioprospecting policy.

...and at the International Level

A regional meeting held in early 1998 on the implementation of the CBD discussed access, benefit-sharing, and intellectual property rights protection for traditional knowledge. Project agreements and case studies of the history of the development of this BCN project were used as conference resource materials. The conference was also used to determine a common Pacific Island policy for the Conference to the Parties of the CBD in Bratislava.

Socioeconomic Monitoring as a Tool for Fiscal Responsibility

The socioeconomic monitoring program made major progress. The SPACHEE coordinator was concerned that the exercises benefit the communities and not be seen as unduly extracting private information. We finally agreed to emphasize financial stewardship. This paralleled the ongoing work on biodiversity stewardship and also addressed a major need in Fiji, which is fiscal responsibility in personal spending. Participants were urged to document their income and expenditures and characterize and prioritize their expenditures. This approach has been well received in Verata and also helps to promote conservation, as overexploitation of biodiversity is linked to sudden financial needs when no saved money is available. SPACHEE also organized a daylong workshop for turaga ni koros (village mayors) from Verata on socioeconomic monitoring in October. Afterwards, these village headmen cited their increased confidence and opportunities to develop cohesiveness in working together in monitoring as a major success of the project.

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Biodiversity Education and Raising Local Awareness

September 1998 was Library Week in Fiji, and local primary schools assembled in regional centers to make topical presentations. One of the Verata primary schools, Vunibokoi, chose to make a display on the biological monitoring.

They also collected and displayed a wide variety of the local biodiversity, which they wanted to protect. Their presentation earned many prizes, surprising



the bigger urban schools that participated. Because the school children of Verata are also becoming involved in the biological monitoring exercises, it was an exciting opportunity for these young participants to share their conservation experiences within a national education setting.

TESTING THE ENTERPRISE-ORIENTED APPROACH

This BCN project made important contributions to policy-making in Fiji. There is growing awareness in the Fiji government of the importance of equitable access and benefit-sharing for biodiversity intellectual property rights, for traditional knowledge, and for the use of participatory community-based methods in setting up resource management plans and monitoring their effect. This is very exciting. At the community level, the basic Fijian concern for "the land" means that sensible ideas to protect the land and Fijian rights will be well received once they are expressed, explained, and seen in action.

This BCN project is interesting in that no enterprise cash has flown to the communities (except for some salaries for collecting and processing) and yet the threats to biodiversity have been lessened. This is due to the strength of village leadership, the commitment of project staff, the local land tenure system, and the genuine concern of Fijian people for their vanua.

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Another factor is that the Verata people, although by no means rich, have a wider range of resources available to them than many other developing-country communities. The enterprise provided a focus for discussion on the importance of biodiversity and will, even in the absence of BCN funds, support local initiatives such as monitoring and efforts of the primary school in their impressive display. Planning



In the Black

While individual community members have not received cash from the sales of samples to SIDR, in fact, the Verata project is one of the most lucrative enterprises of the BCN-supported project portfolio. To date, SIDR have returned a gross revenue to the project of U.S. \$44,800 for the marine samples. During 1998, after accounting for fixed and variable costs, the enterprise made a profit of U.S. \$22,772, which will be placed into Tikina Verata's Trust Fund. This money will then be used at the discretion of Verata residents for conservation and other community development projects such as assisting in improving water supplies or other health services. Such development projects are usually paid for via fundraising that requires collecting and selling marine resources. Although this cash has not reached the individual or household levels, the Verata communities as a whole are generating sizable yearly funds to be used for their collective benefit, and thus the enterprise provides a strong incentive for conservation.

and gathering materials for such activities costs money and the availability of the Verata Biodiversity Trust Fund will ensure that they can be supported in the future. I think the enterprise approach, especially if it fits in with community aspirations, can provide a good basis for a conservation project.

LESSONS LEARNED

Communities can be effective partners in marine conservation provided that their participation is encouraged from the project outset, and their knowledge and skills are acknowledged and respected. An understanding of traditional management practices is useful as it is generally easier to adapt something people already know about and understand than to introduce an entirely "new" concept. Traditional leadership, while not always the most 'representative' in a Western sense, can be the most effective way to make conservation happen, providing that outside project partners are willing to respect other cultures and not impose their values or try to change the existing system. At the same time, the involvement of women and youth should be encouraged as this can lead to broader participation and a greater chance that the resource management will be sustainable. Although our project did work within the traditional framework we also tried to push the envelope somewhat by encouraging, but not forcing, the involvement of women and youth. And finally, it is likely to be more effective to work in an area where people are aware of their resource management problems and seeking solutions rather than having to develop such awareness as part of the project — especially for projects with limited time frames.

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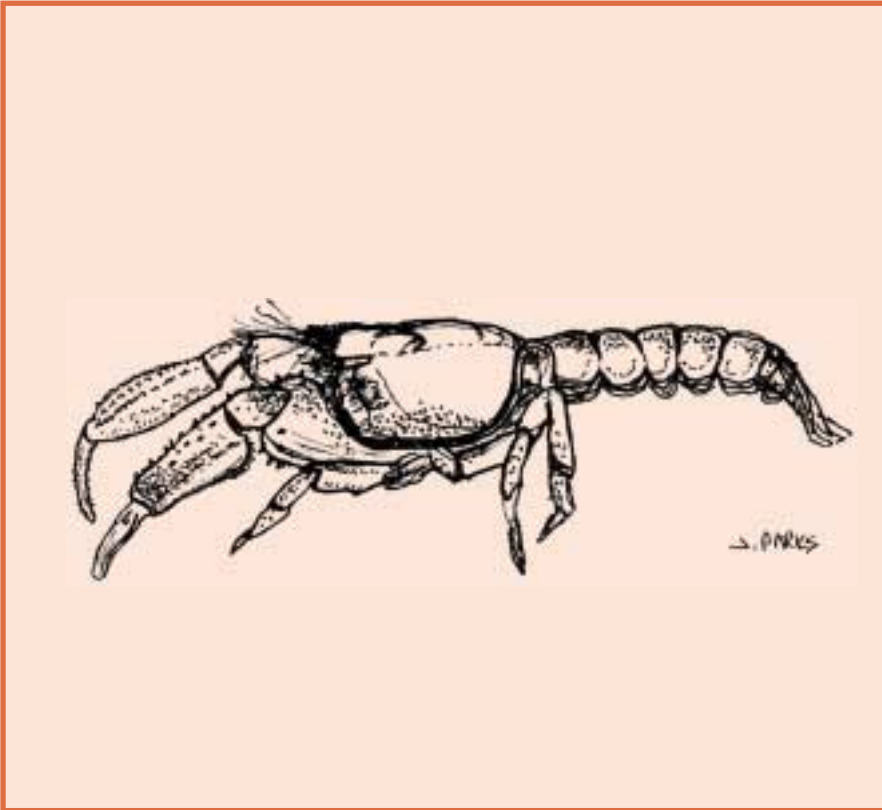
LOOKING TO THE FUTURE

Most project activities are still in progress and will continue first of all via a no-cost extension of BCN funds through mid-1999 and then through the Verata Trust Fund. These especially include monitoring exercises that will generate data over several years. Sample collections are also continuing. The video production should be completed by June 1999. The provisions of the Verata Trust Fund need to be finalized and its role in relation to the Verata Tikina Council needs to be established. According to plans, the turaga ni koros, who have evolved as the project's advisory committee, will meet regularly with people from USP and SPACHEE to discuss ongoing and new initiatives such as mangrove replanting and kava growing as a commercial alternative to marine resource gleaning.

More costly endeavors such as the continued development of natural products research at the USP and possible expansion of the project to a second site



(which existed during the planning phase but was excised due to funding cuts) will require additional funding. Discussions have been held with project partners as USAID and WWF-US about the possibility of follow-up funding administered locally at sites where it was felt BCN funds were used in a cost-effective manner.



JOHN PARKS

Story: William Aalbersberg, Principal Investigator and Project Manager. Bill has been a Chemistry Professor at USP for the past 14 years. He has been active in Pacific conservation issues through chairing SPACHEE and his work at USP's Institute of Natural Resources (renamed the Institute of Applied Science), where he is now Interim Director.

BCN Commentary: John Parks, South Pacific Program Officer, Washington, D.C.

III. NEXT STEPS ALONG THE PATH

The stories in this book represent the ends of long journeys. But like most ends, they can also be viewed as the beginnings of new journeys. Although BCN as a program is coming to an end, most of these projects have found new sources of funding and will continue with their work. Similarly, all of the individuals who have been involved with this work will continue on — many of us with the same projects, others of us with new projects or other endeavors. We've all made our share of mistakes, learned important lessons, and developed our skills. As a result, we will all hopefully be able to improve our work in the future.

Despite our successes, we should not be too optimistic. While we have been working with mixed results at 20 localized sites across Asia and the Pacific, huge forces have been reshaping the landscapes of the world. Over the past seven years, vast areas of forest have been cut down, burned, or degraded. Large numbers of coral reefs have been overfished, poisoned, or bombed. Meanwhile, human populations and their demands upon the environment, fueled by ever-increasing consumerism, are growing. We cannot forget that our work with a few thousand stakeholders in remote corners of the world is dwarfed by the collective impact of the billions of people living in cities and rural areas who are going on with their daily lives. We have, in effect, been puffing out our cheeks and blowing in the face of a hurricane.

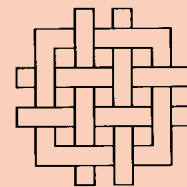
Thinking about our work in this context, it's easy to despair. And yet, at the same time, it's hard not to have hope. Our experiences have convinced us that, if we are collectively going to solve the problems facing us, at least we are starting to find the right path. In particular, we have become convinced that conservation will only succeed if we can help practitioners to

- Define conservation and objectively measure their success in moving toward it;
- Discover and refine guiding principles for using enterprise based approaches to conservation as well as other strategies; and
- Use adaptive management to make their own maps of the landscape and capture the knowledge they have gained in learning institutions.

Our next steps will involve continuing to develop each of these ideas, building on the work that BCN has done to date. We hope that you will join us in the journey.

NOTES

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