

- Rhoades, R. E., R. J. Hijmans, and L. Huaccho. 2003. Potatoes in Panama. *World Potatoes Atlas*. <http://www.cipotato.org/WPA/namerica/Panama.htm> (06 May 2003).
- Stegina, L. 1999. Agriculture terracing for soil stabilization and watershed protection in Sierra Nevada National Park. Unpublished manuscript. School of Forestry and Environmental Studies, Yale University, New Haven CT.
- U.S. Department of State. 2002. FY 2001 country commercial guide: Panama. <http://www.lpade.mx/econ/paises/panama.pdf> (20 April 2003).
- Wessel, K. J., B. Reyers, A. S. van Jaarsveld, and M. C. Rutherford. 2003. Identification of potential conflicts areas between land transformation and biodiversity conservation in Northeastern Africa. *Agriculture, Ecosystems & Environment* 95: 157-178.
- Wishnie, M. and G. Socha. 2003. Watershed management in the Pacific slope buffer zone of the La Amistad Biosphere Reserve, Costa Rica. *Journal of Sustainable Forestry* 16(1/2): 65-102.
- World Bank. 1997. Integrated rural poverty and natural resources/biodiversity conservation program, Panama. Project Document. Public Information Center, World Bank. Washington, DC.
- Yapa, L. 1993. What are improved seeds? An epistemology of the green revolution. *Economic Geography* 69(3): 254-273.



Community-Based Ecotourism and Sustainability: Cases in Bocas del Toro Province, Panama and Talamanca, Costa Rica

Daniela Cusack
Lydia Dixon

ABSTRACT. Tourism is one of the fastest growing industries in the global economy. Ecotourism, a sector of the larger tourism industry, focuses on protecting natural ecosystems while bringing benefits to local communities. To be sustainable, ecotourism projects must be carefully managed so that visitors do not damage isolated natural areas and cultures. Projects must be continually monitored to ensure they are run sustainably. Here, we establish a framework of sustainability indicators for evaluating community-based ecotourism projects. We then evaluate six ecotourism projects around Parque Internacional La Amistad, an international biosphere shared by Panama and Costa Rica. Evaluations are based on field visits conducted as part of a rapid assessments course at the Yale University School of Forestry and Environmental Studies. Finally, we recommend that the sustainability of projects can be increased through goal-setting, establishment of partnerships, and monitoring and evaluation of established projects. [Article copies available for a fee from The Haworth Document Delivery Service: 1-800-HAWORTH. E-mail address: <docdelivery@haworthpress.com> Website: <<http://www.HaworthPress.com>> © 2006 by The Haworth Press, Inc. All rights reserved.]

Daniela Cusack holds a Master of Environmental Science degree from the Yale School of Forestry and Environmental Studies, present address: 151 Hilgrad Hall, MC 3110, Berkeley, CA 94270-3110 (E-mail: dfcamazonia@yahoo.com).

Lydia Dixon holds a Master of Environmental Management from the Yale School of Forestry and Environmental Studies, present address: P.O. Box 3754, Jackson, WY 83001 (E-mail: Lydia.Dixon@alum.dartmouth.org).

Journal of Sustainable Forestry, Vol. 22(1/2) 2006
Available online at <http://www.haworthpress.com/web/JSF>
© 2006 by The Haworth Press, Inc. All rights reserved.
doi:10.1300/J091v22n01_09

KEYWORDS. Panama, Costa Rica, ecotourism, community, sustainability, indigenous groups, economic development

INTRODUCTION

Ecotourism is a strategy that has been used to create sustainable economic development, while pursuing conservation objectives. Ecotourism is a tool that may balance the often-conflicting goals of economic development and biodiversity conservation. Though promoted by many international conservation organizations (Conservation International (CI), 2002; The Nature Conservancy (TNC), 2003), ecotourism projects are not a fail-safe method for achieving conservation or economic development for rural communities. One study of ecotourism around the world noted "many indigenous communities hope that ecotourism will be a way to resist other destructive forms of development. They are alert to ecotourism strategies to protect their natural resources, environments, and cultures. However, some have seen such projects backfire, which created conflicts and divisions within their communities" (McLaren, 1998: pp. 100-101). A study of 23 Integrated Conservation-Development Projects (most of which included an ecotourism component) concluded that few benefits from projects went to local people or to the protection of biodiversity (Brandon & Wells, 1992). In addition, degradation of natural resources due to poor management and overuse by ecotourists are abundant (Farrell & Marion, 2001).

The disparity between goals and outcomes of ecotourism projects has been recognized. During the international year of ecotourism (2002), the World Tourism Organization (WTO) identified several ways to improve the development of ecotourism around the world. These objectives included the dissemination of techniques for planning, management, regulation and monitoring of ecotourism to improve sustainability (WTO, 2002). The long-term success of community-based ecotourism projects depends on evaluation and adaptive management.

This paper has four objectives. First, we provide a description of tourism and ecotourism, focusing on trends in Panama and Costa Rica. Second, we establish a framework, based on previous studies, to analyze the sustainability of ecotourism projects. Third, we use this framework to analyze the current and future sustainability of case studies in Talamanca, Costa Rica, and Bocas del Toro Province, Panama. Finally, we make recommendations for increasing the sustainability of ecotourism in the study area. Our goal is to help communities, cooperat-

ing NGOs, and government agencies avoid scenarios in which ecotourism leads to cultural and environmental degradation.

METHODS

Community-based ecotourism is a tool for securing the common interest of local indigenous groups, local, regional, and international NGOs, and travelers. Brunner et al. (2002) identified three tests to determine whether the common interest has been secured in relation to natural resource management. The first test is procedural: this test asks whether all stakeholders have been identified and are able to participate in the decision-making process. The second test, the substantive test, investigates whether each participant actually possesses a "valid and appropriate" interest in participating in the decision process. Finally, the practical test involves actually applying the decision to a implemented program and determining, through evaluation, whether the program has actually served the common interests of the stakeholders (Brunner et al., 2002).

In many cases, community organizations are formed to address economic development. Other stakeholders involved in a project must also be identified, including national political entities. While national governments may not financially support locally-based ecotourism projects, many national governments recognize that ecotourism improves a country's international image. Non-governmental organizations (NGOs) outside the community also are involved and often give financial and technical support in helping to develop local projects. The practical test is often overlooked as there is rarely a mechanism or personnel for monitoring and evaluating projects.

In order to assess whether community-based ecotourism projects are a sustainable component of the common interest, we participated in a seven-day field trip for a class offered at the Yale School of Forestry and Environmental Studies titled *Rapid Assessments in Forest Conservation*. Our field trip focused on the Atlantic and Pacific regions of the Talamanca mountain range in Panama (Bocas del Toro) and the Pacific region in southwestern Costa Rica (Talamanca). We gathered information through group interviews at six ecotourism projects. We also conducted informal interviews with local community members as well as the Costa Rican regional NGO, ANAI and the Panamanian national NGO and tour operator, ANCON. Finally, we spoke with various employees of Panamanian governmental organizations, including the

Instituto Panameño de Turismo (IPAT) and Autoridad Nacional de Ambiente (ANAM).

ECOTOURISM: DESCRIPTION AND TRENDS

Tourism is one of the fastest growing industries in the global economy (WTO, 2002a). Ecotourism is one sector of the larger tourism industry, which focuses on bringing benefits to local communities while protecting natural areas. However, there is no widely agreed upon definition of ecotourism. Ecotourism often is differentiated from more general nature-based tourism, which is geared specifically toward sustainable rural development. The World Wildlife Federation defines ecotourism as "tourism to natural areas that is determined by, and benefits, local communities and the environment" (WWF, 2003). The World Tourism Organization (WTO), a United Nations Environmental Programme affiliate, defines ecotourism as:

All nature-based forms of tourism in which the main motivation of the tourists is the observation and appreciation of nature and/or traditional cultures prevailing in natural areas. It contains educational and interpretation features. It is generally, but not exclusively organized for small groups by specialized and small, locally owned businesses. (WTO, 2002b: p. 1)

Ecotourism development ideally makes biodiversity conservation economically viable for local communities. In contrast, nature-based tourism includes all tourism in which nature is the focus of travel, but visitors do not necessarily interact with local communities. Misapplied, the use of the term "ecotourism" attracts visitors to nature-based tourism ventures that do not fulfill the above criteria for ecotourism (McLaren, 1998). In order to be more specific, some writers have used the term "community-based ecotourism" to specify ecotourism projects which are primarily controlled by and benefit local communities (Scheyvens, 1999).

Tourism in Costa Rica has increased steadily at 4 to 5% per year since 1999, reaching 1,131,406 international tourists in 2001 (ICT, 2000). The Costa Rica Tourist Board (ICT), a government institution, reported in a survey from 2000 that 57.3% of tourists leaving the country had visited a national park, and 46% had used hiking trails (ICT, 2000). While each country must develop according to its own political and economic

situations, there are aspects of ecotourism in Costa Rica that can serve as a model for other countries.

In Panama, tourism is a growing source of foreign currency and is receiving increasing attention from the Panamanian government (IPAT, 2002). Lieberknecht et al. (1999) recognize the potential economic benefit to Panama through further development of the tourism sector. In order to achieve maximum national benefits, they recommend a combination of ecotourism, nature-based tourism, and traditional tourism for Panama. While community-based ecotourism alone is unlikely to provide large-scale economic benefit on a national level, it has an important niche in isolated communities and in ecologically fragile areas, "both of which can only support small groups of tourists" (Lieberknecht et al., 1999: p. 110). Ecotourism alone is probably not a panacea for economic growth in Panama, though it could be an important source of income for organized communities.

FRAMEWORK FOR ANALYSIS OF ECOTOURISM PROJECTS

A large pool of literature exists describing and evaluating specific ecotourism projects, as well as establishing frameworks for evaluation. We selected the criteria and indicators from the literature that are most relevant to the sustainability of ecotourism in traditional communities. We focused on sustainability in reference both to the long-term physical capacity of an area to serve tourists and the long-term ability of a community to manage and benefit from ecotourism.

To evaluate the sustainability of an ecotourism project, the first organizational level that should be considered is the community. Community organizational structure and sense of self-identity have a fundamental influence on the sustainability of ecotourism projects (Foucat, 2002; Lieberknecht et al., 1999), and is crucial for mitigating the impact of visitors on local culture. Having local communities, instead of outside operators, manage an ecotourism project is the best way to minimize the cultural impacts of ecotourism. Scheyvens (1999: p. 246) determined that from a development perspective, ecotourism ventures should only be considered 'successful' if local communities have some measure of control over them and if they share equitably in the benefits emerging from ecotourism activities. Community organization is also important to avoid infighting during ecotourism development. Local control and equitable distribution of benefits accrued from tourism depend on a high level of organization and cohesion within a community (Foucat,

2002). Because local control is so important to the long-term functionality of ecotourism projects, community organization is our first sustainability indicator (Table 1).

Local economic diversity is also important to the sustainability of community-based ecotourism projects. A potential problem in the development of ecotourism for rural communities is creating economic dependence on the trendy, fluctuating industry of international tourism (McLaren, 1998). While international tourism rose 3.7% from 1998 to 1999, and 6.8% from 1999 to 2000, it fell 0.6% from 2000 to 2001 after the September 11 terrorist attacks on New York City (WTO, 2002a). For some rural communities, ecotourism might represent the only possible source of cash income. Economic diversification, or multiple sources of income, can, in the long-term, ensure that an ecotourism project will not be abandoned at the first tourism slump (Slinger, 2000). Additional sources of income might include sale of traditional handicrafts or agricultural products. The diversity of a community's economic base will be used as a sustainability indicator in our analysis (Table 1).

The sustainability of any ecotourism project that uses nature as an attraction clearly depends on proper management and protection of natural ecosystems. In many, if not most cases, the impact of tourism on a natural area depends as much on the management approach as on the fragility of the natural system. Indicators of sustainability must include evaluation of communities' commitment to conservation (Foucat, 2002). A community's commitment to conservation can be observed using several indicators: minimum impact activities, environmental education, support to research programs, and establishment of carrying capacities (Monteros, 2002). While there are many other indicators that could be used to monitor a community's commitment to conservation, the four listed here cover both immediate management concerns and long-term commitment. Therefore, only these four will be used as sustainability indicators (Table 1).

National-level infrastructure and political conditions are also important for the sustainable success of ecotourism projects. In an extreme example, the Mountain Gorilla Project in Rwanda was considered an extremely successful community-based ecotourism project, which contributed to reduced gorilla poaching and improved local economies (Garen, 2000). Although successful on the local level, the project was terminated because of national political instability, indicating that political stability is also important in terms of attracting visitors to a country. In addition to political stability, reliable infrastructure of roads and potable water are basic necessities for successful ecotourism. These na-

TABLE 1. Evaluation of community-based ecotourism projects in Panama and Costa Rica using sustainability indicators. Plus signs indicate that the project excelled for that indicator; dashes indicate that the project displayed aspects of the indicator but not adequately. Blank boxes indicate that the project did not show any evidence of that indicator.

Sustainability Indicators*	Ngobe-Bugle ^a	APROMOVEN ^b	MONSELVA ^c	FUNDICCEP ^b	Teriba (Naso) ^a	ESTIBRAUPA (BriBri) ^d
Community Organization						
Community organization and cohesion	-	+	+/-	+	+	+
Community sovereignty in management of the project			+	+	+	+
Benefit sharing						
Project serves as prototype in region			+	+	+	+
Economic diversification	+	+	+	+	+	+
Community & Environment						
Community commitment to conservation in rhetoric		+			+	+
Minimum impact activities	-	+		+		
Environmental education		+				
Support to research programs						
Carrying capacity					+	+
Political						
Coordination with government institutions						+
Coordination with local NGOs					+	
Coordination with international NGOs		-				
Coordination among relevant government and NGO institutions	+					
Infrastructure (roads, water)	+		+	+	+	+

*Sustainability indicators adapted from Foucat, 2002; Monteros, 2002; Slinger, 2000; Scheyvens, 1999.

^a Panamanian indigenous group

^b Panamanian community group

^c Costa Rican indigenous group

tional-level indicators will also be used to evaluate the sustainability of ecotourism projects (Table 1).

Macro-scale institutional organization and coordination, both at the national and international levels, are important for the sustainability of community-based projects. Integration of national policies concerning rural development and ecotourism is often a challenge to the success of community-based ecotourism in developing countries (Foucat, 2002). A lack of government regulation, resulting in short-sighted management practices, was identified as an obstacle to the success of ecotourism in Baja California (Monteros, 2002). The lack of regulation was considered to be the result of poor coordination between different government departments. Multiple government departments, including ministries of tourism, natural resources, and rural development, should coordinate policies and programs in order to pursue the success of ecotourism projects. International organizations, which often fund ecotourism projects, must also coordinate with government agencies and local non-profits. Macro-scale institutional organization will be our final indicator of project sustainability (Table 1).

REGIONAL AND NATIONAL ANALYSIS OF SUSTAINABILITY

We will begin our analysis of the study area at the largest organizational level in order to provide context for more specific case studies. We will discuss both national and regional organizing bodies. In the case of Talamanca, Costa Rica, a regional non-governmental organization, ANAI, is a central character in promoting and helping to enhance the sustainability of the ecotourism projects within this region. Panama lacks an organizational and guiding body of this type. National political regimes also impact the ability of communities to carry out successful ecotourism projects.

Ecotourism at the National Level

The current direction of tourism policy in both Costa Rica and Panama trends towards industrial tourism. Panama's Tourism Law 8, for example, grants concessions and tax breaks to those entrepreneurs importing goods or raw materials to establish tourism operations in Panama; locally-based ecotourism initiatives do not benefit from these incentives. Costa Rica has adopted a similar policy through the creation of the Costa Rica Tourist Board (Law No. 1917), which promotes for-

eign visitation and infrastructure development. These policies create an economic disadvantage for locally-based initiatives operating on a much smaller scale than the tourism development occurring in such beach destinations as Bocas del Toro, Panama or Puerto Viejo, Costa Rica.

Another national problem in Panama is the lack of coordination and communication among various government institutions and ministries. Interviews with officials from IPAT and ANAM indicated that these two groups rarely interact. Though the Panamanian communities we visited had little contact with IPAT, they seemed to have regular contact with ANAM. Because IPAT focuses on developing tourism opportunities in Panama, it would behoove local communities to have their ANAM official establish a relationship with IPAT to help promote their local ecotourism projects.

Ecotourism at the Regional Level: ANAI, Costa Rican Regional NGO

ANAI is the only example of a regional umbrella organization working to facilitate the sustainable development of ecotourism projects in La Amistad Biosphere Reserve. ANAI has been working in the Talamanca region for 25 years and has developed a conservation strategy, the Talamanca Initiative, which is "dedicated to supporting the integration of biodiversity and ecosystem conservation, sustainable socio-economic development, and community development of the Talamanca region [and] involves the collaboration and cooperation of over 20 grassroots, community-based organization, many small-scale producers, and the Costa Rican Ministry of the Environment" (ANAI, 2002). Having a regionally specific organization helps facilitate movement and transparency of information among various projects. It also provides a venue for developing training and educational programs for local community members involved in the project. This regional organization ties various local NGOs together and serves as a link to the national and international community, a service which is acutely lacking on the Panamanian side of La Amistad. Having ANAI provide marketing support for local ecotourism projects, as well as organize visits from tourists to their communities, relieves the stress and confusion associated with coordinating ecotourism packages. This regional interface would serve as a valuable tool in Panama, linking different projects together and increasing their visibility in the world market. ANCON in Panama seems to be spread too thinly in terms of re-

sources and personnel, making it difficult for this NGO to act in the same capacity as ANAI in Costa Rica.

COMMUNITY-LEVEL ANALYSIS OF SUSTAINABILITY: CASE STUDIES

We applied our evaluation criteria to projects visited during our rapid assessment, including five communities in Bocas del Toro, Panama, where community-based ecotourism is relatively new, and one well-established project in the BriBri community of the Talamanca, Costa Rica. Three of the projects are located in indigenous communities: the Ngöbe-Buglé and Teribe in Panama, and the BriBri in Costa Rica. The other three projects are local community-based initiatives. Each project is described, evaluated, and given a prognosis for future success. Project pitfalls are also addressed.

Ngöbe-Buglé, Norteño, Panama

The Ngöbe-Buglé community project, in Norteño, Panama, encouraged ecotourists to "participate in our cultural practices and traditional daily lifestyle" through activities such as visiting the medicine man, grinding cacao beans, watching traditional dances, and bird-watching. Prices listed in the brochure ranged from \$15 per person for larger groups to \$40 per person for small groups. We interviewed several residents of the village, including the president of the community and an ANAM volunteer from the community. During the interview, women from the village set up a display of their crafts for sale—pineapple-fiber bags and native dresses. However, because of the nature of our visit as researchers and not ecotourists, we did not participate in any of the activities advertised in the brochure.

Community Organization Indicators

Though the concept of ecotourism seems to be popular within the community, there was little apparent community organization. It was unclear who was in charge of the ecotourism project, and the chaotic nature of communication among community members further emphasized the lack of cohesion necessary to operate a project successfully. We were repeatedly asked for money by various individuals, further indicating the disorganized nature of the project.

The only indicators of a successful ecotourism project were the brochure quoted above and distributed to us at the end of our visit, and the display of local crafts by village women during our interview. In other communities, income generated from such handicrafts has led to the empowerment of women by increasing their social status (Scheyvens, 1999). Sale of artisan crafts is also an indication of diversification of the community's economic base. The brochure highlighted the positive aspects of the project, noting that profits were used to preserve their local culture and provide an alternative to agriculture. However, community members emphasized their need for more international monetary aid; using ecotourism as a means of increasing self-sufficiency did not seem to be a priority.

Based on the brochure, the Ngöbe-Buglé have the potential to develop a successful ecotourism project as they have a unique culture to showcase, and their natural setting is appealing to tourists. In order to be successful, however, it needs to be clear who is managing the project; it cannot be an unorganized mélange of community members appearing when tourists arrive. Training of individuals involved in the ecotourism project and infrastructure development with the aid of such organizations as the MesoAmerican Biological Corridor, which already provides some support for the group, could help facilitate the success of the project. The current condition of community disorganization and confusion regarding distribution and use of revenues collected from ecotourism for the benefit of the entire community, spells disaster for the organization and success of the project. Community sovereignty in the project's management does not seem to be an issue; given that the Ngöbe-Buglé live on a *comarca* (indigenous reserve), they have the ability to govern their own affairs.

Environmental Indicators

It was apparent that deforestation still occurs around the community as the population grows, despite the rhetoric of promoting sustainability. This trend indicates that the concept of minimum impact was not integrated throughout the community. In fact, while some community members stressed the need to avert deforestation, others continued to clear land for agriculture. Carrying capacity is another issue to address for the purposes of ecotourism. Given the community's proximity to the well-traveled road between two relatively large cities, Changuinola and Almirante, regulating the number and timing of visitors to the village

may be difficult. There was no evidence of education and/or research programs.

Macro-Institutional Indicators

This project receives some funding from the Mesoamerican Biological Corridor. However, other than providing sewing machines for artisan crafts, little evidence was seen of their support. IPAT has refused to conduct training and capacity-building workshops for the Ngöbe-Buglé given their lack of community organization. Infrastructure, in the form of the nearby road, exists for tourist access to the community. The availability of safe drinking water may be problematic; apparently the construction of the road has led to decreased water quality due to sediment loading, and agro-chemical application also poses a threat to sanitary drinking water.

APROMOVEN, Las Delicias, Panama

APROMOVEN is a non-governmental organization in Las Delicias, Panama with a vision of ecotourism as a means for sustainable development. The small community of *campesinos* running this NGO recently migrated from Chiriquí. They have pooled much of their forested land with the intentions of building interpretive trails and a lodge to host tourists.

Community Organization Indicators

This community seemed to have the cohesion in governance structure and planning necessary for a successful ecotourism project. They have plans for future expansion, and have already secured money from the Mesoamerican Biological Corridor for their project. Community sovereignty in managing and organizing the project exists. In terms of benefit sharing, the individuals who have pooled their forested land for interpretative trails will reap any benefits secured by the ecotourism project. This group, however, did not seem to have any other projects, such as cacao or artisan wares, for economic diversification. Currently they are subsistence farmers and sell some products in the Costa Rican markets just across the river. Relying solely on ecotourism for their economic base could backlash in times of global economic depression; the need for economic diversification is evident.

Environmental Indicators

This community displayed a common vision for sustainability, recognizing the ecological benefits to keeping their land forested. They also are excited about promoting environmental education and supporting minimum impact activities for tourists, such as hiking. Again, carrying capacity has not been addressed here, though the macro-institutional indicators discussed below may preclude the establishment of a carrying capacity.

Macro-Institutional Indicators

The largest problem facing this community is at the macro-institutional level. International donors did not address the fact that the most accessible means of accessing this community is crossing the border between Panama and Costa Rica. Las Delicias is not a point of entry to Panama, and does not have the infrastructure or the desire to become a border town. Despite this difficulty, the first phase of this project, financed by the Mesoamerican Biological Corridor, has already been implemented with the completion of a cabana overlooking the Sixaola River and the purchase of a cayuco and a pair of horses to transport tourists.

Though the community organization and environmental indicators for this community are promising, legitimizing the border-crossing issue with the Panamanian and Costa Rican governments is a daunting and perhaps insurmountable task. This issue of institutional coordination and infrastructure must be addressed before further marketing or promotion of the project. ANAI has suggested that they may intervene on behalf of Las Delicias by establishing a tour package including a visit to the village and trying to surmount some of these political barriers.

MONSELVA

MONSELVA is a non-governmental organization that coordinates efforts between a Ngöbe indigenous community and a *campesino* community in Palo Seco Forest Reserve, Panama.

Community Organization Indicators

During our visit, MONSELVA highlighted the partnership between two communities, and addressed their willingness to coordinate and

share profits generated from an ecotourism project. However, the concept of ecotourism still appeared amorphous to them, and they seemed surprised when it was suggested they should have brought their artesian crafts and garden-raised orchids to sell.

Environmental Indicators

MONSELVA expressed a commitment to conservation. They hoped to develop a project involving environmental education by showcasing the spectacular jungle biodiversity of Palo Seco, perhaps by offering guided quetzal-viewing tours. This village would also be a good base for research projects into Palo Seco; however, promoting research activities has not been a priority of this or any of the communities visited.

Macro-Institutional Indicators

MONSELVA applied for funding from the Mesoamerican Biological Corridor to begin an ecotourism project and was turned down because they had not identified an appropriate carrying capacity; ANAM refused to give the group a forest-use concession to construct a tourism facility, including educational trails, lodging, and a small restaurant, in a cleared area within the Reserve. The community seemed to have a superficially positive relationship with the local ANAM official; however, underlying resentments surfaced once he had departed, indicating a lack of communication regarding management of the local natural resources.

Success for MONSELVA may be secured, if provided with financial and technical support, governmental aid through land concessions, and organized management. In terms of infrastructure, this village is located directly next to a major road, which provides easy access and visibility for the project.

FUNDICCEP Project, Pila Entrance, Cerro Punta

The FUNDICCEP women's project at the entrance to PILA in Cerro Punta, Panama, secured funding from the Mesoamerican Biological Corridor to build and run a small restaurant to serve tourists visiting the park. They have received training in finance and business management from Mesoamerican Biological Corridor personnel and have a computer for record-keeping.

Community Organization Indicators

This project provides work and a social outlet for local women and their daughters. It also provides a venue for selling local products, such as artesian crafts and jellies from forest fruits, increasing diversification of local market bases. The community of Cerro Punta is economically depressed and primarily relies on industrial agriculture for economic development (see Shah, this volume), which consequently means that forest clearing and application of agro-chemicals are rampant practices within the community. The women who work at the restaurant are able to share proceeds generated here with their families, though the community-at-large does not benefit directly from the project. In terms of sovereignty, the women at the restaurant manage every aspect of the restaurant; they are only dependent on financial support from the Mesoamerican Biological Corridor. However, given the increasing numbers of tourists to this region, economic independence may be forthcoming.

Environmental Indicators

The project includes educational bulletin boards celebrating the resplendent quetzal (*Pharomachnus mocinno*) as well as other highlights of the park, which was the only example of environmental education observed throughout the projects. The rhetoric of conservation is actively employed here, and the project could serve as a prototype for similarly situated villages at the entrances to the Parque Internacional La Amistad (PILA) or in the buffer zones. The project also helps foster inclinations for conservation, as the livelihood of project employees depends on maintaining a viable wildlife population and natural scenery in and around PILA. In addition to forest clearing, illegal hunting also is a major threat to the wildlife of PILA; seeing the success of the ecotourism project here may influence other less ecologically minded members of the community to curb their illegal activities.

Macro-Institutional Indicators

This project could be considered a successful partnership with an international NGO, the MBC. In terms of marketing strategies, the restaurant is located on the only road to the park and enjoys a visible position for travelers in and out of PILA. The project is supported by local

ANAM personnel, including the park ranger, who encourages tourists to stop here for refreshments.

Teribe, Solon and Wetzo, Panama

The Teribe (Naso) manage a highly successful ecotourism project on the Teribe River, Panama. Visitors embark on a boat journey up the river to Wetzo, formerly one of General Manuel Noriega's military training camps. Visitors then learn about the Teribe culture through meals prepared from local foods and community members on hand to answer questions regarding their culture and lifestyle. The Teribe possess a sense of pride in their culture and enjoy displaying their wooden crafts and traditional dress to tourists. The artisan who carved many of the wooden animals and hunting tools was available to answer questions. We also visited a village farther upriver from Wetzo, but ecotourists typically end their boat ride at Wetzo, where lodging and meals are provided.

Community Organization Indicators

The community was well-organized and exercised sovereignty over their project, aside from some financial and technical support from Conservation International. One key aspect for cultural preservation is the separation of the visitor area from the community villages, an apparently effective means of protecting their culture from any negative impacts of tourism. They also have a system in place to distribute profits from the ecotourism project. Money is deposited in a bank account and subsequently used to pay salaries and community benefits. This system ensures that the administration and control of profits is a group effort and that the benefits of the ecotourism project are shared among community members.

In order to gauge the satisfaction of visitors to the Teribe project, a survey was distributed at the end of their visit asking tourist to rate the quality of the overall experience and then each aspect of their visit, including quality and quantity of food, lodging, and guide service. This type of monitoring survey should be a model for other groups pursuing ecotourism projects, as it determines where improvements are needed for the contentment of tourists and the local community affected by the project.

This project can serve as a prototype in this region, as the community had plans to expand their project to the upper reaches of the Teribe

River to include neighboring communities upstream. Provided with an avenue for information-sharing, the nearby Ngöbe community could also learn from the activities of their neighbor. One of the few drawbacks of the Teribe project was their lack of coordination and cooperation with other indigenous groups in the region.

Environmental Indicators

The Teribe can easily establish a carrying capacity for their project given their complete control over the movement of tourists to and from Wetzo. They have the added benefit of protecting their culture from negative outside influences given their remoteness and the infrequent influx of tourists to their actual living communities. The Teribe were aware of the ecological benefits of preserving their forests and promoted cacao agro-forestry and ecotourism. This ability to protect their forests probably stems from having a much smaller community than the Ngöbe-Buglé. This community is a gateway to the high-mountain reaches of PILA and could be a valuable jumping-off point for researchers should the Teribe want to support research programs.

Macro-Institutional Indicators

Infrastructure is well-developed through the utilization of former military training camp buildings, converted by the community to a restaurant and small lodge. The isolation of the community is an important factor for ensuring the success of their project. This limited accessibility allows the Teribe to enforce the carrying capacity they established.

Training in administrative and hard skills, such as boat driving, were provided to members of ODESEN, the community group in charge of the project. IPAT conducted a capacity-building workshop for the Teribe, which was provided to the Teribe in part because of the community's level of organization. The Wetzo project also collaborated with ANAM to secure funding from the Mesoamerican Biological Corridor. This is the sole example of coordination between a local group and a national governing body in Bocas del Toro.

BriBri, Estibraupa, Yorkin, Costa Rica

The BriBri project is similar to that of the Teribe in that local guides transport tourists upriver to a BriBri community on the Yorkin River. A short hike leads to a traditional thatched-roof stilted lodge built explic-

itly for this ecotourism project, with several small rooms to host overnight guests. A group of local women cook and serve local foods, including heart of palm, bread, rice and beans, and juice. Ecotourists also may see a cacao roasting and grinding demonstration and swim in the local swimming hole.

Community Organization Indicators

The BriBri of Costa Rica are a well-organized community with a successful ecotourism project. The community exercised complete sovereignty in running the project. Access to their project was limited to riverboats operated by indigenous guides, which gave the BriBri control over rates of tourist visitation. In terms of benefit sharing, visitors deposit their payments in a common bank account so no money was exchanged in the village. These payments are used to pay the salaries of those involved in the ecotourism project, including the women who cook for visitors and the tour guides. However, though the money is not explicitly distributed throughout the community, those involved in the project purchase supplies from other community members so benefits are shared among the village. The organized management of both the project at the site and the financial aspects can serve as a prototype for other communities trying to develop a successful project. In terms of economic diversification, the BriBri do not rely solely on their ecotourism project for sustainable development. They also have cacao agro-forestry systems as well as artesian crafts, either sold to tourists coming to the village or, like the Teribe and Ngöbe-Buglé, transported to local markets in popular tourist destinations such as Puerto Viejo, Costa Rica and Bocas del Toro, Panama.

Environmental Indicators

The success of the ecotourism project has improved this community's conservation ethic, as they recognize that local biodiversity draws tourists to their community. Bernarda Morales, member of the group ESTIBRAUPA, which runs the project, is quoted in *Eco-Exchange*, the newsletter of the Rainforest Alliance: "we take better care of nature now than [sic] before because we didn't know that what we have has a lot of value" (Rainforest Alliance, 2003). A carrying capacity has not yet been established; however, like the Teribe, the BriBri have an advantage in calculating carrying capacity in that they can control the number and timing of visitors to their community. Experiential environmental edu-

cation for visitors occurs in such minimum-impact activities as cacao demonstrations, swimming in the river, and hiking through the rainforest.

Macro-Institutional Indicators

One unique aspect of the BriBri project is the presence the regional organization ANAI, which serves as a clearinghouse for information and facilitates the visits of ecotourists to the project. The service ANAI provides to this and 15 other ecotourism projects in the Talamanca region of Costa Rica is fundamental to the success of the project. The marketing strategy provided by ANAI gives the BriBri project an advantage that the Panamanian projects, lacking an umbrella NGO, do not have. Proceeds secured by ANAI, acting as a third-party tour operator, are turned over as donations to the communities.

In terms of infrastructure, as mentioned above the BriBri have a lodge erected explicitly for the use of their ecotourism project as well as several boats for bringing tourists upriver. The only questionable aspect of infrastructure is the quality of the drinking water.

RECOMMENDATIONS

Our recommendations revolve around three aspects: goal-setting, facilitating and establishing partnerships, and monitoring and feedback. The first step in establishing sustainable management of ecotourism projects should be goal-setting, followed by partnerships and monitoring. Some projects we visited already have successfully implemented aspects of goal-setting, while falling short in others. More focus should be placed on forming partnerships and monitoring and evaluation for the projects already well-established to ensure their sustainability into the future.

Goal Setting

Integrate community and regional development priorities: Ecotourism projects should integrate broad community and regional development priorities, rather than focus exclusively on conservation and environmental protection strategies (McLaren, 1998). The WTO emphasizes generating greater awareness among public authorities, the private sector, the civil society, and consumers regarding ecotourism's capacity to contribute to biodiversity and cultural conservation and the improve-

ment of standards of living in those areas. Foucat (2002) also recommends an integrated ecotourism management program for the region that takes into consideration the varying status of communities that are attempting to develop ecotourism.

Establish and implement a regional tourism development strategy: The Inter-American Development Bank (IADB) has recommended that the Panamanian government establish a regional tourism development strategy for the Bocas region (IADB, 2002). The task for this development plan should presumably fall to IPAT, which governs the promotion of tourism nationally. However, non-governmental organizations, such as the Nature Conservancy and ANCON, should also work together to create a vision for tourism development in the region. Goals for this vision should focus on establishing the type and extent of tourism appropriate for each sub-region, from mountain villages such as Boquete to the archipelago of Bocas del Toro, and the small indigenous and *campesino* communities.

Ensure community sovereignty in management of the project: Communities and organizations controlling local ecotourism projects should define a limited number of stakeholders and lay out how their specific goals can be met (Brandon & Margoluis, 1996; Brunner et al., 2002). Most of the communities we visited appeared to exercise sovereignty over their various projects. However, drafting a business and management plan incorporating current conditions may be a valuable tool in ensuring continued success of the project into the future. These business plans should include the following aspects:

- institutional strength and personnel: describe the institutions and qualifications of the people who will be working on the ecotourism staff,
- financial background of the institution: provide three years of financial history on the organization,
- goals of the ecotourism program: list specific milestones and a timeframe for the program including income and distribution of funds over five years,
- strategic plan: list methods to achieve goals,
- financial projections: provide a spreadsheet with monthly expenditures and income for the first year, quarterly for the second year, and annually for years 3-5. Provide an extremely detailed list of all costs, broken into line item categories,
- market: carefully describe the clients that are to be part of the ecotourism program,

- marketing strategy: describe all methods of marketing and why they are to be used, and
- market niche: describe the industry trends and competition. Describe the unique qualities of the organization or project and the natural and cultural features of the area that will make the ecotourism project competitive. (Barker, 1996: pp. 257-258)

Diversify economic base: Nearly all the communities visited had some kind of artesian wares for sale, such as pineapple fiber bags (Ngöbe-Bügle), wooden carvings, and traditional weapons (Teribe). Along with showcasing the culture and handiwork of the indigenous groups, these products diversified each community's economic base. Relying strictly on ecotourism for sustainable economic development is volatile because it is based on the international markets for tourism and the current state of the global economy globally. Many sustainable development alternatives may be incorporated into locally-based ecotourism projects. Agroforestry systems, such as cacao production, are a prime example of local sustainable agriculture. Artesian crafts can be sold in markets outside the community, such as those found in the town of Bocas del Toro, while visitors to a village may see a demonstration of the techniques and methods used to make these products. Other options include markets for ecosystem services, such as carbon sequestration, and harvesting of non-timber forest products for sale, such as the MONSELVA orchid project.

Increase opportunities for international marketing and promotion of ecotourism destinations (WTO, 2002b): One of the major drawbacks for the Panamanian groups was the lack of a marketing strategy. The local ANCON office in Bocas del Toro provides information regarding ecotourism projects if a tourist inquires about opportunities on the mainland. The recently established Pacific Ecotourism Network in the South Pacific is one example of a successful regional marketing effort. European travel agencies can use the network to plan a range of activities for an ecotourism itinerary (Sooaemalelagi et al., 1996). Few examples exist worldwide of multinational ecotourism organizations providing support or visibility for ecotourism projects. TNC has the unique opportunity to pursue the establishment of a network of Central American ecotourism projects simply by establishing an informative web page.

Identify carrying capacities for existing projects: Carrying capacities need to be established for each project to ensure its long-term viability, for purposes of both biodiversity conservation and cultural survival.

Environmental education: Ensure that tour operators are uniformly equipped to provide quality accurate information to tourists regarding the local ecosystems and cultures (Foucat, 2002). This aspect of enhancing ecotourism projects could be addressed through the training and capacity-building workshops carried out by either IPAT or TNC in Panama, or ANAI in Costa Rica.

Partnerships

Coordination extension workshops: TNC and IPAT should coordinate extension workshops specialized to each community's level of organization and facilitate community training. IPAT currently will provide capacity building and training workshops to community groups who qualify. They have already held a training session with the Teribe. If TNC works with IPAT to incorporate their goals and standards for ecotourism into IPAT's currently existing program, the training and capacity building processes could be streamlined. In order for an ecotourism project to be successful, one of the primary tasks should be to ensure that the concepts of "sustainability" and "ecotourism" are well-defined and understood by the members of local communities involved in the planning and execution of the projects, instead of merely being rhetoric. These concepts should be then presented to the community at large to educate villagers to the benefits of sustainable development instead of deforestation.

Establish an NGO similar to ANAI to work in Panama: ANAI's role as an information clearinghouse, marketing machine, and tour operator could be replicated in Panama with a similar, regionally organized NGO. The overhead costs in terms of monetary support, personnel, and infrastructure may currently be too overwhelming to pursue. The majority of tourism occurring in Bocas del Toro presently is concentrated in the archipelago. In order to promote inland tourism, having existing, sustainably-minded tour operators extend their services to ecotourism inland may be an option. A private tour operator may be more profit-driven and prone to exceeding carrying capacity, however, than an NGO. Therefore, coordination with the regional office of ANCON may be a more realistic approach. ANCON now operates a profit-generating tour service in Bocas. The current policy regarding travel and tourism inland is to tell if specifically asked. Through the synchronization of marketing through ANCON, already regarded as a source for eco-friendly tourism excursions in this region, linkages between the tourist markets on Bocas and the potential inland markets

may be established. In the future, an NGO should be established to promote tourism in the highlands. This NGO could also focus on increasing cross-border coordination with ANAI and linking ecotourism markets between Costa Rica and Panama. Puerto Viejo and Bocas del Toro are obvious choices for cities in which to base NGO activities given their high levels of tourism and developed infrastructure.

Promote information exchanges in community-based ecotourism: In order to facilitate the exchange of information regarding successes and failures of ecotourism projects in this region, an information clearinghouse should be established (WTO, 2002b). Given the ubiquitous nature of Internet access today, by creating a website for exchanging experiences from ecotourism projects throughout Central America, different groups can learn from each other. TNC can provide technical support.

Coordinate among projects, researchers, and research institutions: By bringing researchers into the communities, different perspectives on management of the ecotourism projects may help to improve the ecological sustainability of the project and the community. The School for Field Studies (www.fieldstudies.org) is one example of an institution that offers participatory research in developing areas (Barker, 1996). Universities and research institutions may also be interested in conducting research in communities with ecotourism projects.

Monitoring

Set up monitoring and evaluation protocols: The sustainability of community-based ecotourism projects can be evaluated with surveys of community members. Indicators of both sustainable community development and conservation should be considered. Community development indicators could be social, socio-economic, environmental, or political (Foucat, 2002). Social indicators used by Foucat (2002) to evaluate ecotourism projects in Baja California, Mexico included societal cohesion, importance of the project for the region, sovereignty in the management of the project, and commitment to the project. Socio-economic indicators included benefits and benefit-sharing within the community. Environmental indicators included awareness of the impacts from ecotourism and the need for measures such as carrying capacities. Political indicators evaluated coordination of governmental, non-governmental, and academic institutions that influence tourism and development. Indicators of economic, psychological, social, and political empowerment can also be used to monitor and evalu-

ate the sustainability of community development in ecotourism (Scheyvens, 1999).

As projects become established, an appraisal process can help identify where problems lay (Brunner & Clark, 1997). Because political, ecological, and social change occurs over time, frequent reassessment of the project is necessary to determine if it still fulfills the goals identified at its inception. As resources are limited, an appraisal process can help determine where improvements in resource allocation can be made for improved efficiency (Brunner & Clark, 1997). As visitation grows, assessments of visitor impacts should be monitored (Farrell & Marion, 2001). Monitoring allows projects to adapt to changing circumstances and community perceptions. Monitoring and evaluation also help determine when a project is no longer serving its goals and must be terminated. Criteria should be established to determine when a project should be terminated (Clark & Ashton, 1999). Reasons to terminate projects might include extreme cases of the pitfall listed above. There must be a process established to identify when termination is necessary, and how to do it.

CONCLUSION: THE SUSTAINABILITY OF ECOTOURISM

Ecotourism has promise as a means for sustainable development and rural empowerment. If managed and monitored by well-organized communities, ecotourism can generate revenue while protecting biodiversity from more destructive forms of development. Although its appropriateness must be evaluated on a case-by-case basis, ecotourism is often in the common interest of local, national, and international stakeholders. Overall, the prospects for ecotourism development in Bocas del Toro, Panama, seem promising. A great advantage for the development of ecotourism in Bocas del Toro is the successful prototype for ecotourism that exists across the border in Costa Rica in the BriBri community. The community projects discussed in this paper meet varying degrees of sustainability, and a regional network of ecotourism projects remains a possibility. The most obvious component lacking for the successful development of ecotourism in Bocas del Toro is a regional ecotourism NGO, such as ANAI in Costa Rica. A regional NGO could organize and help train local communities developing ecotourism projects. Additionally, this NGO could facilitate bi-national coordination. Promoting ongoing evaluation, monitoring, and adjustment for each individual project is important for any organization working on sustainable development for this region.

REFERENCES

- Barker, K. 1996. To Ecotour or Not to Ecotour: Unpacking the Impacts and Business Realities of Tourism Development in Sana and Tariquia Reserves of Tarija, Bolivia. in Malek-Zadeh, E., ed., *The Ecotourism Equation: Measuring the Impacts*. Yale School of Forestry and Environmental Studies Bulletin 99, New Haven, CT.
- Brandon, K. and Wells, M. 1992. Planning for People and Parks: Design Dilemmas. *World Development Planning for People and Parks: Design Dilemmas* 20: 557-570.
- Brunner, R., Colburn, C., Cromley, C., Klein, R. and Olson, E. 2002. *Finding Common Ground: Governance and Natural Resources in the American West*. Yale University Press, New Haven, CT.
- Conservation International (CI). 2002. Ecotourism Program. <http://www.conservation.org/xp/CIWEB/programs/ecotourism/ecotourism.xml> (8 April 2003).
- Clark, T. W. and Ashton, M. S. 1999. Field Trips in Natural Resources Professional Education: The Panama Case and Recommendations. 181-198 in Hauff, R., ed., *Protecting Watershed Areas: Case of the Panama Canal*. Food Products Press, New York, NY.
- Farrell, T. and Marion, J. 2001. Identifying and Assessing Ecotourism Visitor Impacts at Eight Protected Areas in Costa Rica and Belize. *Environmental Conservation Identifying and Assessing Ecotourism Visitor Impacts at Eight Protected Areas in Costa Rica and Belize* 28: 215-225.
- Foucat, V. A. 2002. Community-Based Ecotourism Management Moving Towards Sustainability, in Ventanilla, Oaxaca, Mexico. *Ocean & Coastal Management Community-Based Ecotourism Management Moving Towards Sustainability, in Ventanilla, Oaxaca, Mexico* 45: 511-529.
- Garen, E. 2000. Appraising Ecotourism in Biodiversity Conservation. 221-251 in T.W. Clark, A. Willard, & C. Cromley, eds., *Foundations of Natural Resources Policy and Management*. Yale University Press, New Haven, CT.
- Costa Rican Tourist Board (ICT). 2000. 2001 Yearbook. <http://www.visitcostarica.com/ict/paginas/estadistica.asp> (25 April 2003).
- Inter-American Development Bank (IDB). 2002. Panama: Multiphase Program for Sustainable Development of Bocas Del Toro (Pn-0149). <http://www.iadb.org/exr/doc98/apr/pn1439e.pdf> (12 February 2003).
- Instituto Panameño de Turismo (IPAT). 2002. Untitled. <http://www.ipat.gob.pa/zonas/index.html> (9 April 2003).
- Lieberknecht, K., Papazian, J. and McQuay, A. 1999. Balancing Conservation and Economics: The Development of an Ecotourism Plan for Panama. *Journal of Sustainable Forestry* 8: 107-126.
- McLaren, D. 1998. *Rethinking Tourism and Ecotravel*. Kumarian Press, West Hartford, CT, USA.
- Monteros, R. L. 2002. Evaluating Ecotourism in Natural Protected Areas of La Paz Bay, Baja California Sur, México: Ecotourism or Nature-Based Tourism? *Biodiversity and Conservation Evaluating Ecotourism in Natural Protected Areas of La Paz Bay, Baja California Sur, México: Ecotourism or Nature-Based Tourism?* 11: 1539-1550.

- Scheyvens, R. 1999. Ecotourism and the Empowerment of Local Communities. *Tourism Management Ecotourism and the Empowerment of Local Communities* 20: 245-249.
- Slinger, V. 2000. Ecotourism in the Last Indigenous Caribbean Community. *Annals of Tourism Research Ecotourism in the Last Indigenous Caribbean Community* 27: 520-523.
- Sooaemalelagi, L., Brown, S., Martel, F. and Dolgoy, R. 1996. The Ecotourism Operation Was a Success, but the Patient Died: A Case Study from Western Samoa. in Malek-Zadeh, E., ed., *The Ecotourism Equation: Measuring the Impacts*. Yale School of Forestry and Environmental Studies Bulletin 99, New Haven, CT.
- The Nature Conservancy (TNC). 2003. The Nature Conservancy's Ecotourism Program. <http://nature.org/aboutus/travel/ecotourism> (8 April 2003).
- World Trade Organization (WTO). 2002a. Facts and Figures. http://www.world-tourism.org/market_research/facts&figures/menu.htm (26 March 2003).
- World Trade Organization (WTO). 2002b. Wto-Unet Concept Paper-International Year of Ecotourism 2002. <http://www.world-tourism.org/sustainable/IYE/WTO-UNEP-Concept-Paper.htm> (26 March 2003).
- World Wildlife Foundation (WWF). 2003. The WWF Mission and Tourism. http://www.wwf.org.uk/filelibrary/pdf/wwf_tourism_position_paper.pdf (26 March 2003).