

THE ROLE OF LOCAL DEVELOPMENT
IN PROTECTED AREA MANAGEMENT:

A COMPARATIVE CASE STUDY OF ECO-TOURISM IN COSTA RICA

Summary of Dissertation Results

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INTRODUCTION

This document summarizes results from dissertation research examining local development as a protected area management strategy. It specifically explores the opportunities ecotourism has offered to three communities bordering Corcovado National Park and Piedras Blancas National Park in southern Costa Rica. It also attempts to determine the ecotourism's influence on conservation perspectives and practices.

Problem Statement and Theoretical Background

A widely-accepted but recently challenged theory regarding conservation in the tropics emphasizes the need to satisfy local welfare as a prerequisite to achieving resource protection. In response to this theory, integrated conservation and development projects (ICDPs) that package rural development benefits and incentives within conservation programs have become increasingly popular in recent decades. ICDPs operate on the premise that people will conserve resources when an incentive to do so and/or attractive economic alternatives to resource exploitation exist. Despite the proliferation of ICDPs, much debate exists as to their economic and ecological viability (see Barrett and Arcese 1995, Barrett and Arcese 1998, Brandon and Wells 1992, Crook and Clapp 1998, Freese 1997, Kremen et al. 1994, Robinson 1993, Salafsky et al. 1993).

Rationale

Numerous conservation and development organizations (e.g., The Nature Conservancy, World Wildlife Fund, CARE, World Neighbors, and national NGOs) have begun to question the ICDP approach and are presently attempting to identify which strategies have been most successful for both conservation and development goals. Likewise, academicians and policymakers are calling for more research to clarify the impacts of linked conservation and development approaches (see, e.g., Machlis and Tichnell 1985, Wells et al. 1992, West and Brechin 1991, Western et al. 1994).

Few studies have systematically challenged the underlying theory behind ICDPs or the extent to which community involvement and benefits sharing affect conservation objectives. Honey (1999) is a notable exception, although her study was broad-based, covering numerous countries. In contrast, the research presented here focuses on the community level and provides detailed case studies involving interviews and surveys with community residents. It addresses the critical deficiency of well-defined, rigorous studies exploring the effectiveness of linking conservation to local development.

This study challenges the underlying principles of ICDPs by raising issues of participation and equity and by exploring how economic, as well as other factors, may influence or motivate conservation behaviors. Moreover, it questions the assumption that human behavior and motivations are utilitarian and self-maximizing in nature, following a self-interested model, as opposed to a moral and/or social model (Wilk 1996).

Study Description

Theories on achieving conservation through development rarely consider the scale and extent of local participation and the distribution of associated costs and benefits. In reality, often only a select group, usually the village elite, participate in or manage the alternative development activities. Moreover, the ICDP approach fails to account for the potential that human behavior is motivated by social and/or moral codes, as described by Wilk (1996). These assumptions lead to several questions, many of which I have tried to address through this study. Some questions raised include:

- Are those participating responsible for the threat to the resource base?
- If only a few people actively participate, does the whole community benefit?
- Is it enough to merely benefit economically from the initiative, or do active involvement, empowerment, ownership, and values play an important role?
- Do cultures and societies have moral or social codes that influence behavior, and how do these affect conservation practices?
- If the community does not benefit, are they likely to change their destructive practices or reinforce their conservation behaviors?
- Are there other costs associated with ecotourism (or any development activity) that practitioners, policymakers, or academics fail to recognize?

Unfortunately, the scope of a dissertation study did not allow me to address all of these questions. Using a case study approach, I focused on how local involvement and the distribution of benefits associated with ecotourism influence conservation perspectives and practices. Specifically, I tested the following hypotheses:

- Hypothesis 1: Local development activities with greater local participation and equitable benefits distribution and costs sharing are more likely to generate attitudes and behaviors favorable to conservation.
- Hypothesis 2: Income generation alone is not sufficient to encourage conservation. Other factors, such as age, education, religion, and cultural norms, motivate and influence attitudes and behavior.
- Hypothesis 3: Ecotourism and economic development may negatively impact conservation through unintended or overlooked side effects.

Layout of Study Findings

Although this document provides only a summary of findings, I have outlined what is covered in each chapter of the full dissertation. The first chapter, Introduction, presents much of the information already discussed here. In general terms, I organized my findings through a series of in-depth case studies and a chapter that ties in generalizations across cases and involves further statistical analyses.

Chapter 2, Literature Review, summarizes the evolution of conservation strategies, from the early years when the preservationist paradigm dominated to more recent years with the emergence and subsequent challenges to sustainable development theories. The chapter situates ecotourism in the broader context of income generation strategies to promote conservation, while also highlighting ecotourism's primary benefits and drawbacks. Finally, the chapter discusses local participation in conservation and the influence of ICDPs on conservation attitudes and practices.

Chapter 3 presents the mixed methods approach to my research. It outlines the justification for using qualitative, open-ended interviews in conjunction with survey data to explore the research questions. It also discusses site selection and sampling criteria, as well as measures used and data collection and analysis techniques.

The following section, Chapter 4, provides broad background information on the settlement history of the Osa Peninsula and the southern Pacific region of Costa Rica. In addition, it further details the establishment of both Corcovado National Park on the Osa Peninsula and Piedras Blancas National Park, located across the peninsula, on the mainland. Although both have been very important in protecting biological resources, neither arrived without controversy.

While the first four chapters provide general methodological and contextual background, the following five chapters explore study questions in more depth. Chapters 5 through 8 detail emerging themes from each of the study sites: La Gamba, Cerro de Oro, Drake Bay, and La Amistad (Biolley and Altamira). The first three communities are the primary focus of this research, as they are villages in which ecotourism is present, although its success varies widely. Biolley and Altamira, two communities bordering La Amistad International Park, serve as comparison communities because they have had minimal exposure to ecotourism or alternative development strategies. The case study chapters follow the same general framework, although details and experiences naturally differ according to local context. In general, the information presented is primarily descriptive, drawing on data from both open-ended interviews and surveyed heads of households. The chapters each open with a section detailing community background and changes over time and then proceed to discuss the community's experience with tourism and perceived benefits, impacts, and the distribution of those benefits and impacts. The chapters then explore peoples' perceptions and practices with respect to forest and wildlife management. They discuss how people try to reconcile conservation-oriented perspectives with their need and desire to provide for their families, as well as identify factors people feel have been important in influencing forest and wildlife conservation in their community. The following section addresses perceived benefits and impacts associated with the neighboring park, and the final section considers the variety of ways in which people say they have learned about forests and wildlife.

Chapter 9 analyzes and summarizes cross-cutting themes emerging across research sites. It explores, in greater depth, some differences within communities, as well as among them. Here, I present statistical data to evaluate how well different factors tend to predict conservation perspectives and practices. This chapter also offers suggestions for improving ecotourism's development and conservation benefits and enhancing park management strategies. I have based these suggestions on comments from villagers, as well as my own personal observations. The

chapter also suggests various opportunities for additional research to further illuminate the research questions and other issues that emerged but were beyond the study's scope.

Because this last chapter ties together common themes throughout the study, I focus primarily on this chapter to summarize study findings. In a few instances, I bring in quotes from other chapters to enrich statistical data.

SITE DESCRIPTIONS

The present study was carried out in the communities of La Gamba, Cerro de Oro, Drake Bay (Agujitas and Los Planes), Biolley, and Altamira. The following paragraphs provide brief background information on each community and the parks bordering the main study sites.

Corcovado National Park

Corcovado National Park (PNC), located on the Osa Peninsula's Pacific Coast in southern Costa Rica, comprises the largest remnant of tropical, humid Pacific rainforest in Central America (Bermudez Acuña and Mena Araya 1993, Servicio de Parques Nacionales 1995, Vaughan 1981). The 41,789 hectare park encompasses a wide range of habitats and is home to increasingly threatened fauna, including crocodiles, tapirs, jaguars, ocelots, scarlet macaws, and all four of Costa Rica's monkey species.

With much of the Osa Peninsula under the threat of colonists, logging companies, and gold prospectors, Daniel Oduber, the Costa Rican president at the time, signed a presidential decree on October 24, 1975 to establish Corcovado National Park (PNC). The park was later expanded in 1980, increasing in size by nearly a third from just over 34,000 hectares to almost 42,000 hectares. With the initial declaration of PNC, the Costa Rican government arranged to reimburse and relocate all farmers within the newly-declared area. This became a much larger and more expensive task than originally envisioned. At the time, the park service decided to allow the few miners (approximately 10) to remain in the park, as their impact on the park was considered to be minimal and their numbers too few to warrant pursuit and compensation schemes did not provide adequate mechanisms for reimbursement for this group (Rodriguez 2000).

While PNC has a fairly strong protection program, threats to the park's integrity still exist. Conservationists and park employees have expressed a great deal of concern over illegal gold mining activities that take place within the park, although there is no consensus on just how great that threat is (see Janzen et al. 1985, for a discussion of the environmental impacts of gold mining in Corcovado). Hunting and logging are not serious problems within the park itself, but represent perhaps the gravest threats to the surrounding Golfo Dulce Forest Reserve (RFGD) [Chaves, 2000 #248

Piedras Blancas National Park

While now technically considered its own park, the Piedras Blancas National Park (PNPB), located on the mainland near Golfito, is often referred to as the Esquinas Sector of Corcovado National Park. The Costa Rican government expanded PNC in 1991 to include this 14,025 hectare sector and an accompanying 1,200 hectares of marine territory, thus creating a biological

corridor with Corcovado on the Osa Peninsula. PNPB has experienced administrative and political problems similar to those of Corcovado. Namely, the government has been very remiss in compensating landowners who suddenly found themselves in a protected area with restricted land use.

Perhaps because many still refer to PNPB as part of Corcovado, only limited official information on the area exists. Like PNC, Piedras Blancas is considered humid tropical rainforest and is home to a number of endangered species. Due to its relatively small size and location amongst a sea of agricultural land, however, PNPB's wildlife is not nearly as abundant or diverse as in Corcovado. Nevertheless, it does offer excellent opportunities for bird watchers and herpetologists.

La Gamba

Just 15 km from Golfito in southeastern Costa Rica, La Gamba and its surrounding valley offer spectacular views of forests and lush, verdant mountains. The town is bordered by Piedras Blancas National Park and the Golfito Wildlife Refuge. Settled in the early 1950s, La Gamba is a small rural community of just over 100 households. The mainstay of the community is agriculture and livestock production, although many support themselves or supplement their income through day laborer jobs.

In the early years, the region was an important banana growing center until the United Fruit Company (UFCO) shut down operations in 1984, an event that aggravated a severe economic crisis throughout the country (Molina and Palmer 1997). Former banana workers settled the countryside and tried to make a living off the land. Presently, most landowners have land in forest cover or pasture for cattle raising. Recent development efforts have also promoted African palm plantations.

With the 1991 expansion of Corcovado National Park (the Esquinas Sector, which later became Piedras Blancas National Park), many Gambeños abandoned their farms and moved closer to the town center or to other towns. This move, however, did not come without controversy or hard feelings. The government has been delinquent in compensating farmers in many protected areas, but the case of Piedras Blancas is one of the most severe. Hard feelings persist today amongst those affected by the protected area declaration.

While most Gambeños make their living farming and raising cattle, many work as day laborers on others' farms or some of the remaining banana, palm, and forest plantations. A handful of Gambeños work in the duty free zone in Golfito, established by the Costa Rican government to boost the economy of the southern region. The only other significant source of employment is the Esquinas Rainforest Lodge. Built in 1994 with funding from the Austrian government, the ecotourism lodge was to provide an alternative income source to La Gamba, thus melding social, development, and conservation goals. Profits from the hotel theoretically support local social and development initiatives

The Esquinas Rainforest Lodge, however, has fallen short of meeting most of its lofty objectives. Initial interactions with the community were fraught with misunderstandings and resultant

mistrust. Originally, the Austrian government had planned to train Gambeños and eventually turn over management and ownership to the community. When this did not occur within the first few months of operation, residents felt deceived. Some made an attempt to take over the hotel but were met by riot police from San José. Given the reaction of the community to the hotel, the Austrian government determined it was best for the hotel to remain in outside hands but for all the personnel, with the exception of the managerial staff, to come from La Gamba. In the last few years, relations between the community and the hotel have improved, due, in large part, to new management and serious efforts to create a more positive image.

Cerro de Oro

Located in the heart of the Osa Peninsula, Cerro de Oro is a small, isolated settlement of current and former small-scale gold panners who eke out a living, using shovels, picks, and pans to sift gold from river sediment. Access to Cerro de Oro involves an 11 kilometer hike from La Palma, crossing the Río Rincón 25 to 30 times. Cerro de Oro borders Corcovado National Park (PNC), separated only by the Río Rincón. The community has approximately 40 full-time residents, most of whom make their living through gold panning.

In its most economically prosperous times, 10 to 15 years ago, Cerro de Oro supported a community of over 1,000 people. In 1986, the park service started implementing the 1980 decision to expand PNC, an action which affected more landowners and miners in the area just outside the original boundaries. After conflicts with and protests by local miners, the government offered them three compensation options: cash; a parcel for a home and farm; or the establishment of a gold-mining cooperative that would operate exclusively outside park boundaries.

Most gold extraction at Cerro de Oro is illegal, taking place on the rivers bordering PNC or within the park itself. The majority of panners came after the park expansion or accepted one of the settlement options. They justify their continued panning by claiming they were never reimbursed or that the compensation they received was insufficient.

When the miners were forced to leave the newly expanded park, many chose the compensation option of forming a cooperative, establishing what eventually became known as CoopeUnioro. They began to extract gold in 1986, operating with expensive heavy machinery. Initially, the cooperative was very lucrative. With time and mismanagement, however, machinery began to deteriorate, and the cooperative began to collapse (Araya 1999, Sancho 1999).

In 1989, a new administration took over and tried to turn the cooperative around, imposing a stricter work regimen. While initially successful, only a few years later, CoopeUnioro decided to abandon gold mining. About half the members left the coop at this point. Those who remained, about 15, decided to pursue a more environmentally-friendly alternative and began plans for an ecotourism lodge. The cooperative formally opened its doors to ecotourism in 1992. As of March 2000, the cooperative had four active members living in Cerro de Oro. Maintaining membership has been an ongoing problem for Unioro, becoming even more challenging in recent years. Many members have left because they cannot make money through the cooperative. While the cooperative manager has hopes that youth from the community and nearby areas will

become members and eventually assume leadership, others are less optimistic, claiming that the cooperative has few members and is really only a cooperative in name.

Drake Bay (Agujitas and Los Planes)

Drake Bay comprises five small communities that lie close to the Pacific Ocean, just west of Corcovado National Park. This study focuses only upon Agujitas, the tourism center, and Los Planes, its closest neighbor. Agujitas, located on the Bay itself, has about 65 households, while the more remote Los Planes, located in the hills behind Agujitas, has almost 40 homes. Approximately 90% of Agujitas residents depend upon tourism for their living, in comparison to about 50% in Los Planes.

Prior to 1973, migration to the area was negligible. Colonists in both Agujitas and Los Planes supported themselves by raising livestock and planting corn, beans, rice, and bananas. With time, people began to witness sharp declines in agricultural production, a result of successive planting seasons and the region's poor agricultural soils.

Until 1982, tourism in and around Drake Bay was virtually non-existent. Tourism began slowly and only really began to flourish in the last 10 years. Today, the economy of Agujitas is almost completely dependent upon tourism, a fact that slightly worries some residents who fear economic swings could hurt the industry.

Despite the area's economic growth, Drake Bay still remains isolated from basic national infrastructure. Consequently, the community has become a sea of self-sufficient islands, with hotels and some families supplying their own electricity through diesel-powered generators, disposing of their garbage independently, and meeting water and sanitation needs through individual supply and septic systems. Nearly all people interviewed, however, recognize tourism has helped the region prosper. The most frequently mentioned changes are the increased employment opportunities and the subsequent abandonment of agricultural and livestock production lifestyles. This, in turn, has led to increased secondary forest growth.

Of the three ecotourism research sites, Drake Bay is, by far, the most advanced in terms of tourism. While La Gamba and Cerro de Oro each had only one lodge in the community, Agujitas has about ten small operations, four of which are higher-end establishments, catering primarily to foreign, higher-paying clientele. Three of the four are foreign-owned, while Costa Ricans own the majority of the smaller hotels.

La Amistad (Biolley and Altamira)

Spontaneously colonized around the late 1960s and early 1970s, communities surrounding La Amistad International Park are primarily agricultural, with a large percentage of the population involved in coffee production. In prior years, many people also reared livestock. With a decline in beef prices in the 1980s, cattle ranching has steadily given way to coffee farming.

In 1982, the Costa Rican government joined with the Panamanian government to establish La Amistad International Park (PILA). The park straddles the border between Costa Rica and

Panama, with Costa Rica protecting 193,929 hectares and Panama 207,000 hectares. Reactions from Costa Rican neighboring communities were initially unreceptive, and many still complain of lack of compensation and what they feel are unnecessarily severe restrictions regarding resource use. Despite these problems, many have come to recognize PILA's value.

Biolley and Altamira both have an interest in becoming more involved in tourism, but they are still in the early planning stages. In general, Altamira and especially Biolley have a fair number of entrepreneurial people. Like Draqueños, there is a high level of motivation and self assertiveness. In addition to tourism efforts, approximately 15 women from Biolley formed a cooperative in 1998 for growing and processing organic coffee. In contrast to some of the ecotourism communities, no one in the PILA communities complained of employment scarcity. People are almost exclusively dependent upon their land and make a living growing mainly coffee.

La Amistad communities have noted signs of increasing development, including improved roads, access to electricity and piped water, population growth, etc. With respect to environmental changes, the communities have also gone through a cycle of widespread deforestation and burning. More recently, especially since the park's establishment, residents have witnessed a return to greater forest cover.

STUDY FINDINGS

This section summarizes and discusses results from this dissertation research. For a full discussion and extensive data documentation, please refer to the complete version of my dissertation.

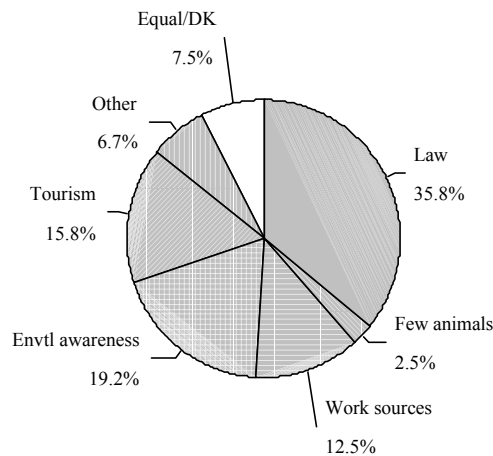
General background

As discussed extensively in the case studies, people view forests and wildlife as important for a variety of reasons, which, for the purposes of this study, I categorize as: utilitarian, ecosystem services, and intrinsic worth. People seemed to recognize the importance of protecting the environment, but they struggled with reconciling protection with their own family's needs. Consequently, many have defined use levels and terms which they see as acceptable. Not surprisingly, peoples' attitudes towards resource management practices tended to reflect local customs, circumstances, and constraints. For example, respondents in La Gamba, where unemployment is widespread, showed the highest percentage of people who feel that, due to a lack of employment, it is sometimes necessary to cut trees. Cerro de Oro, on the other hand, where people do not depend upon the forest for firewood or timber, had the lowest percentage of people in agreement with the association between unemployment status and the need to cut trees. Overall, I noticed a detachment between peoples' practices and how they perceive their actions impact the environment. Again, in Cerro de Oro, miners tended to consider conservation and protection only in terms of terrestrial flora and fauna. Under this conception, mining impacts on forests and wildlife are negligible. Over 90% of Cerro de Oro residents agreed with stronger controls on hunting and deforestation, but only 29% supported stronger controls for mining.

Agreement was nearly unanimous that people should never cut trees near water sources and that it is very important to protect forests and wildlife for the enjoyment of future generations. This

suggests these are not issues, as well as emphasizes people’s recognition of forest values for ecosystem services and future generations.

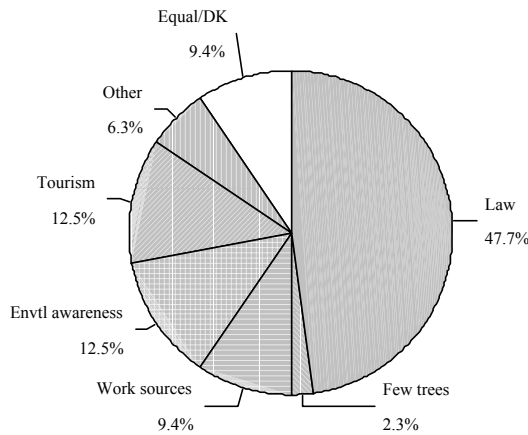
Various survey questions for the ecotourism sites explored community perceptions of motivations for decreased deforestation and hunting. In general, people see both hunting and deforestation as declining, with 80% and 91% of survey respondents, respectively, citing decreases. Interestingly, people saw legal restrictions as the most influential factor in decreasing both deforestation and hunting, although its influence in declining deforestation rates appears to be stronger (Figure 1 and Figure 2). This coincides with work by Bruner (2001) which shows that parks have been more effective in halting land clearing than in stopping hunting. Also interesting is the minimal influence of tourism or increased work sources. Although people generally agreed these, along with environmental awareness, were important in deterring environmentally-destructive practices, they overwhelmingly identified legal restrictions as the most influential factor. In Drake Bay, where tourism is the economic mainstay, tourism assumed a more important role in declining hunting and deforestation rates. Despite these results, I do not advocate command and control strategies, as such hard-line policies also create antagonistic relationships that may have severe detrimental consequences over the long-term. The case studies provide extensive details on feelings of animosity stemming from poor community-park relations.



*Some gave more than one most important reason
n=101 who believe hunting has decreased

Figure 1. Most important reason for decreased hunting.¹

¹ Cerro de Oro residents were not asked if work sources played a role because this was not an issue there. In La Gamba, I did not ask people about tourism, as originally I planned to keep that imbedded within work sources.



*Some gave more than one most important reason

n=117 who believe deforestation has decreased

Figure 2. Most important reason for decreased deforestation.²

Overall, most people place much of the blame for forest destruction on outside logging interests. Independent studies generally support these claims (see, for example, Barrantes et al. 1999). People in La Gamba and Cerro de Oro also implicated outsiders in hunting taking place near their communities. Those in Drake Bay did not discuss this issue, possibly because they claim hunting is virtually non-existent now. While most study participants claimed hunting and deforestation have decreased, many conceded they were significant problems in the past.

Ecotourism as a conservation strategy

Interviews revealed that, where tourism has been an economically viable alternative, people have abandoned environmentally-destructive practices. The underlying motive, however, is not obvious. Comments imply time may be an important factor. When people are fully employed, they have less disposable time to hunt or cut trees. In addition, some people claim they have left their land in forest cover because they have seen its value for tourism.

Linear regression results reveal that tourism employment status is a highly significant predictor of the percent forest a landowner has ($p < .001$. See Table 1 and Table 2). Based upon these results, one would expect households that have a family member employed in tourism to have, on average, 29% more land in forest cover, as compared to those who are neither employed in tourism nor exposed to tourism (i.e., La Amistad residents). Tourism exposure itself is also significant, with an expectation that, on average, those without family employment in tourism but exposed to tourism would have 19% more land in forest cover, as compared to those not employed in and not exposed to tourism.

² Ibid.

Cross tabulations also show families with members employed in tourism, relative to those not employed in tourism and/or not exposed to tourism, claiming less interest in engaging in resource-intense practices if they had more disposable income. In contrast to the regression results on percent forest cover, merely being exposed to tourism does not appear to be associated with a tendency to be less likely to engage in resource-intense practices.

Table 1. Tests of Between-Subject Effects on % Land in Forest Cover (All Communities).

Source	Type III Sum of Squares	df	Mean Square	F	Significance
Corrected model	6.2576	6	1.0429	21.6944	0.000
Intercept	4.7675	1	4.7675	99.1708	0.000
Relative economic status	0.4041	3	0.1347	2.8020	0.042
Tourism employment status	2.0758	2	1.0379	21.5894	0.000
Total land	1.3346	1	1.3346	27.7624	0.000
Error	6.6822	139	0.0481		
Total	23.1257	146			
Corrected total	12.9398	145			

R Squared = .484 (Adjusted R Squared = .461)

N=144 landholders

Table 2. Parameter Estimates for Predicting % Land in Forest Cover (All Communities).

Parameter	B	Significance
Intercept	0.0385	0.206
Relative economic status: ^a	0.0422	0.509
Don't know		
Better	0.1324	0.008
Worse	0.0919	0.063
Tourism employment: ^b	0.1918	0.000
Not employed, exposed to tourism		
Employed in tourism	0.2871	0.000
Total land	0.0017	0.000

^aOmitted category is average relative economic status

^bOmitted category is not employed and not exposed to tourism

While practices showed a fairly strong association with tourism employment, the relationship is less clear when examining conservation perspectives. To analyze this data, I used chi-square tests to look at responses to a series of statements that might reveal people's conservation leanings (see Table 3 for a list of variables examined). Significant chi-square values indicate that the trends the data show are likely reflective of real trends in the larger population. Several perspectives statements showed unexpected patterns, where those employed in tourism did not have the highest frequency of pro-conservation responses. For example, in Drake Bay, those with family employment in tourism were less likely to disagree with the statement "The most important benefit of the forest is tourism" than those not employed in tourism (56% vs. 33%). Although the difference was large, it was not statistically significant, perhaps partially due to the question's small sample size. Based upon results from various chi-square tests, the association between tourism employment and conservation perspectives is not evident. In fact, as the following paragraphs indicate, the association may be stronger with other tourism benefits.

Table 3. Variables examined through linear regression and chi-square tests.

<i>Behavior variables:</i>
Percent land owner has in forest cover ^a
1. Interest in engaging in a resource-intense practice ^b if the respondent had more money
<i>Perspectives variables:</i>
1. More than anything else, the forest exists to provide firewood and timber.
2. Due to a lack of employment, it is sometimes necessary to cut trees.
3. Due to a lack of employment, it is sometimes necessary to hunt.
4. People should be allowed to clear forests for crops and livestock without any governmental restrictions.
5. If we were to conserve forests here, we would have less opportunities to make money.
6. Hunting wild animals is OK, if one needs money.
7. Humans have a greater right to live than animals.
8. If there were a lot of animals, hunting would be fine.
9. It is always bad to hunt wild animals.
10. The most important reason to protect the forest is to attract tourism.
11. The most important benefit of the forest is tourism.
12. The most important thing about forests is to make money with them.

^a I used linear regression to examine this variable. For the remaining variables, I used chi-square tests.

^b Resource-intense practices include one or more of the following: investing in livestock, mechanized agriculture, deforestation, employing others to work plots, and/or buying mining equipment.

I expected those with family members occupying higher levels of responsibility in tourism to be more likely to give conservation-oriented responses than those with lower responsibility levels. This expectation only materialized in half the perspectives questions, and in only one case was it statistically significant at $p < .05$. In terms of practices, tourism responsibility level was not a useful predictor for percent land in forest cover. Although not statistically significant, responses did follow the expected trend for the question on people's interest in engaging in resource-intense practices were they to have more disposable income. While these results do not make a strong case for the association between higher levels of responsibility in tourism employment and environmental leanings, I am reluctant to discount possibilities of association, as there were no cases in which responsibility level in tourism showed an unexpected pattern. In fact, none of the tourism benefits, except direct employment, showed any negative association with pro-conservation practices or perspectives.

Although perhaps not too surprising a finding, it is important to emphasize that scale influences tourism-related benefits and impacts. Boo (1990) makes a similar claim in her five-country case study analysis of ecotourism's potential and drawbacks. In La Gamba and Cerro de Oro, where tourism occupies only a minor position in the local economy, few people benefit from tourism. At the same time, few experience any negative impacts from tourism and were often surprised when I asked them about this. Meanwhile, in Drake Bay, the economy is almost entirely dependent upon tourism. Benefits have been widespread, but so have cultural, social, economic, and environmental impacts (Figure 3 and Figure 4). While La Gamba and Cerro de Oro residents felt few tourism-related impacts, outside of minimal local involvement, those in Drake Bay cited numerous negative impacts, including increased solid waste generation, cultural loss, community and familial disintegration, and increased access to alcohol and drugs. In broader terms, tourism in Drake Bay has become analogous to monoculture farming. It has left the economy without any diversity to shelter people in difficult times, an issue Boo (1990) also discusses as a

drawback to ecotourism. In addition to a vulnerable economy, many in Drake Bay feel they have lost their independence. Tourism has transformed the economy from a subsistence to a monetary one, with people owning land, yet frustrated they must buy their food at the local *pulperias* and pay exorbitant prices.

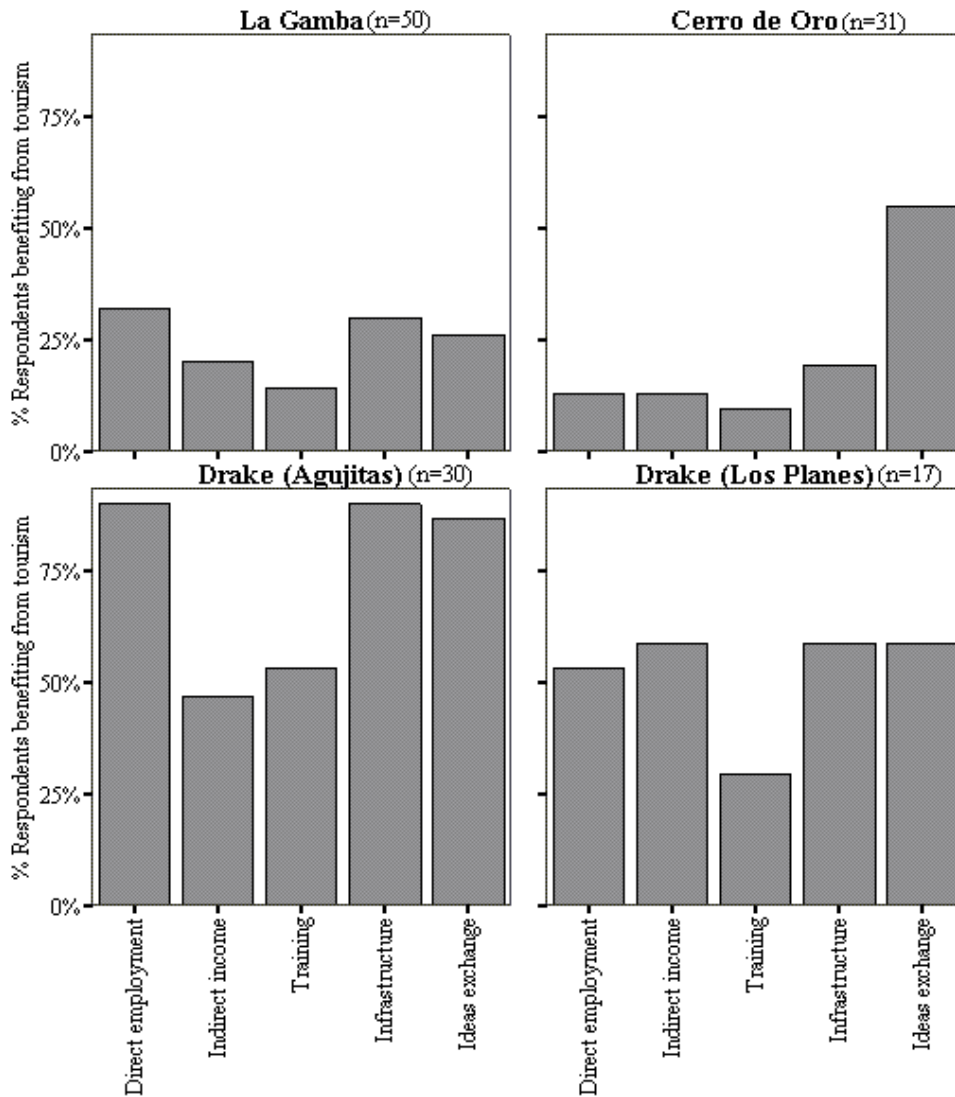


Figure 3. Cross-community comparison of respondents who have shared in tourism benefits.

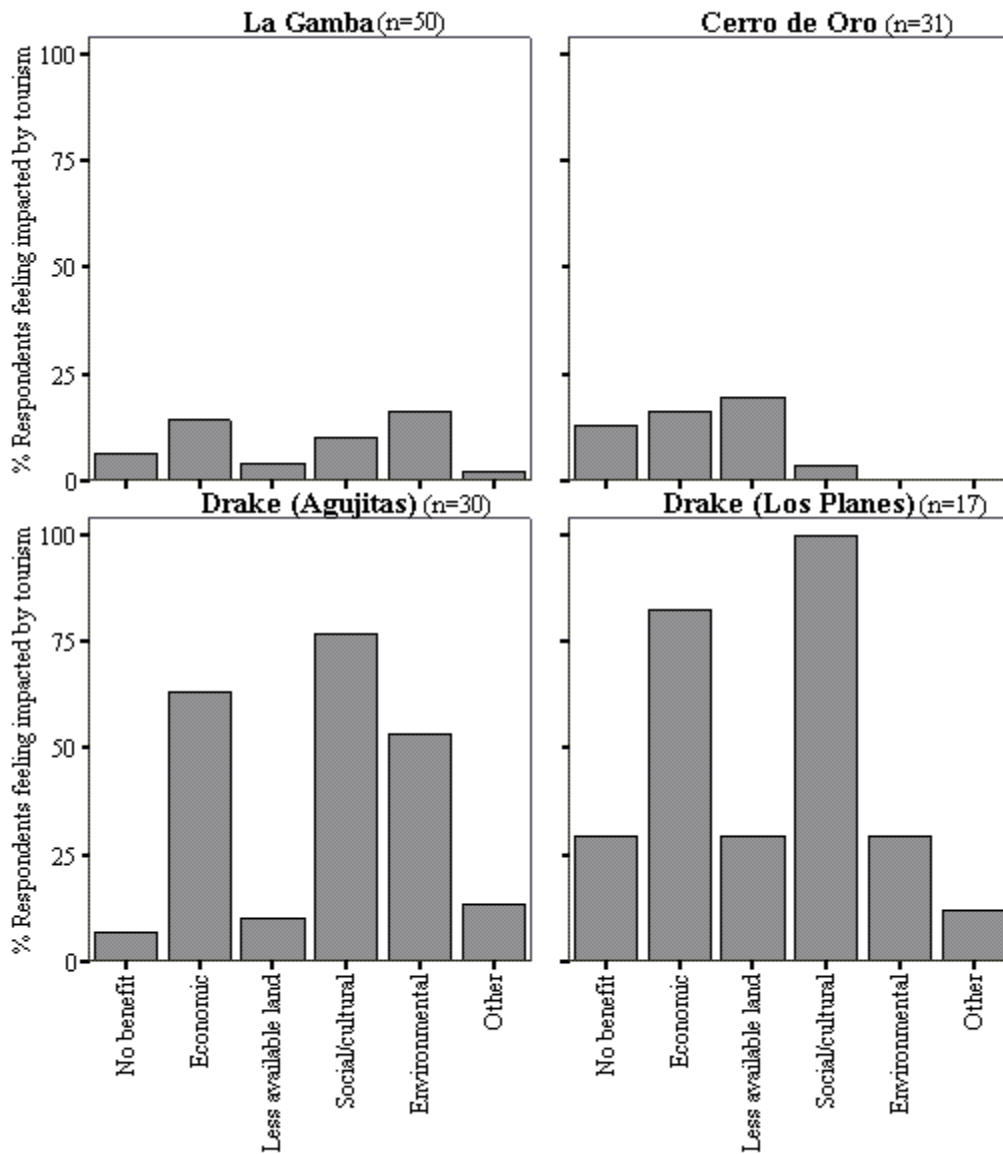


Figure 4. Cross-community comparison of respondents who feel impacted by tourism.

The findings presented in this section on ecotourism as a conservation strategy support, to a certain degree, all of the study’s hypotheses, paraphrased here: 1) Local development activities with greater local participation are more likely to generate attitudes and behaviors favorable to conservation; 2) Income generation alone is not sufficient to encourage conservation; and 3) Ecotourism and economic development detrimentally impact conservation through unintended side effects. The results illustrate an association between tourism employment and conservation practices, although tourism’s role in influencing conservation perspectives appears negligible. Other tourism benefits, such as ideas exchange and training, do show positive associations with

stronger conservation perspectives. Thus, local participation in benefits seems important, but those benefits extend beyond direct economic ones. Finally, as discussed in the previous paragraph, ecotourism has brought negative environmental, as well as socio-cultural and economic impacts.

Relative economic status

Returning to the linear regression model presented in Table 1 and Table 2, results show relative economic status to be a moderately significant predictor of percent land farmers leave in forest. Further examination of regression coefficients in Table 2 reveals only the relationship between “better” and “average” categories is significant. Based upon the model results, one would expect people who feel their economic situation is relatively better to have, on average, 13.2% more land in forest cover, as compared to those who view their economic status as average. An unusual and slightly significant relationship ($p < .10$) exists between the “worse” and “average” categories, with the expectation that those who see their economic status as worse than their neighbors would have, on average, 9.2% more land in forest cover than those who see their economic status as average. Although this seems an unusual and potentially worrisome result, it corresponds with my personal observations that people closest to the park tended to see themselves in a worse economic situation because park laws restricted land use. Thus, they actually had kept more land in forest, but they were doing so against their will and felt this negatively affected their livelihood.

While linear regression shows relative economic status to be significant in estimating percent land in forest cover, chi-square tests reveal conflicting data on the association between relative economic status and perspectives on forests and wildlife management. In general, those with better relative economic situations tended to have stronger conservation perspectives, although, in a few instances, those categorizing themselves as average showed even stronger conservation perspectives. The safest conclusion from these results is that those who see their economic situation as worse, relative to their neighbors, tend to have weaker conservation perspectives. It is interesting to note, however, there is no association between relative economic livelihood and the desire to engage in resource-intense practices if more money were available. This lack of association implies that improving economic status may not influence resource management practices, positively or negatively. This finding, although perhaps in conflict with results from the linear regression model, supports the hypothesis that income generation alone is not sufficient to influence conservation practices.

Some data suggest economic dependence upon forest resources may contribute to strong economic perspectives on forests and wildlife, possibly at the expense of undermining other non-use oriented value systems. Sayer (1981, as cited in (Boo 1990)) addresses this issue when he cautions that too much emphasis on the economic values of parks could lead decision-makers to view parks primarily as tools for economic profit. Qualitative interviews revealed a tendency for people who depended on the forests for their economic livelihood, be it tourism, mining, or timber, to first mention utilitarian benefits of forests, wildlife, and the neighboring park. Some would follow these comments with references to ecosystem or intrinsic values. Because this was not a central issue to this study, the survey design does not permit a reliable examination of this potential association. Nevertheless, the relationship does emerge in questions relating to who

people see as benefiting from the national park bordering their community. As Figure 5 illustrates, La Amistad residents, who reap no tangible economic benefit from La Amistad International Park (PILA) view their community and the world as the entities that benefit most from PILA. The other communities tended to identify economic beneficiaries, such as park guards and hotels. This, however, is not clear-cut. For example, 28% in Agujitas (Drake Bay) see the community as the most important beneficiary. It is unclear if they see the community as a beneficiary in utilitarian or non-use terms, or a combination of the two. What is striking, however, is the two Drake Bay communities, both of which benefit most from tourism, identified primarily economic beneficiaries. Also interesting is the high percentage of responses going to park guards, except in La Amistad and Agujitas. As mentioned above, data does not exist to offer further clarification, as this issue goes beyond this study's focus. It does, however, suggest a need to strengthen strategies designed to promote or reinforce conservation behaviors by including a focus on conservation values and attitudes.

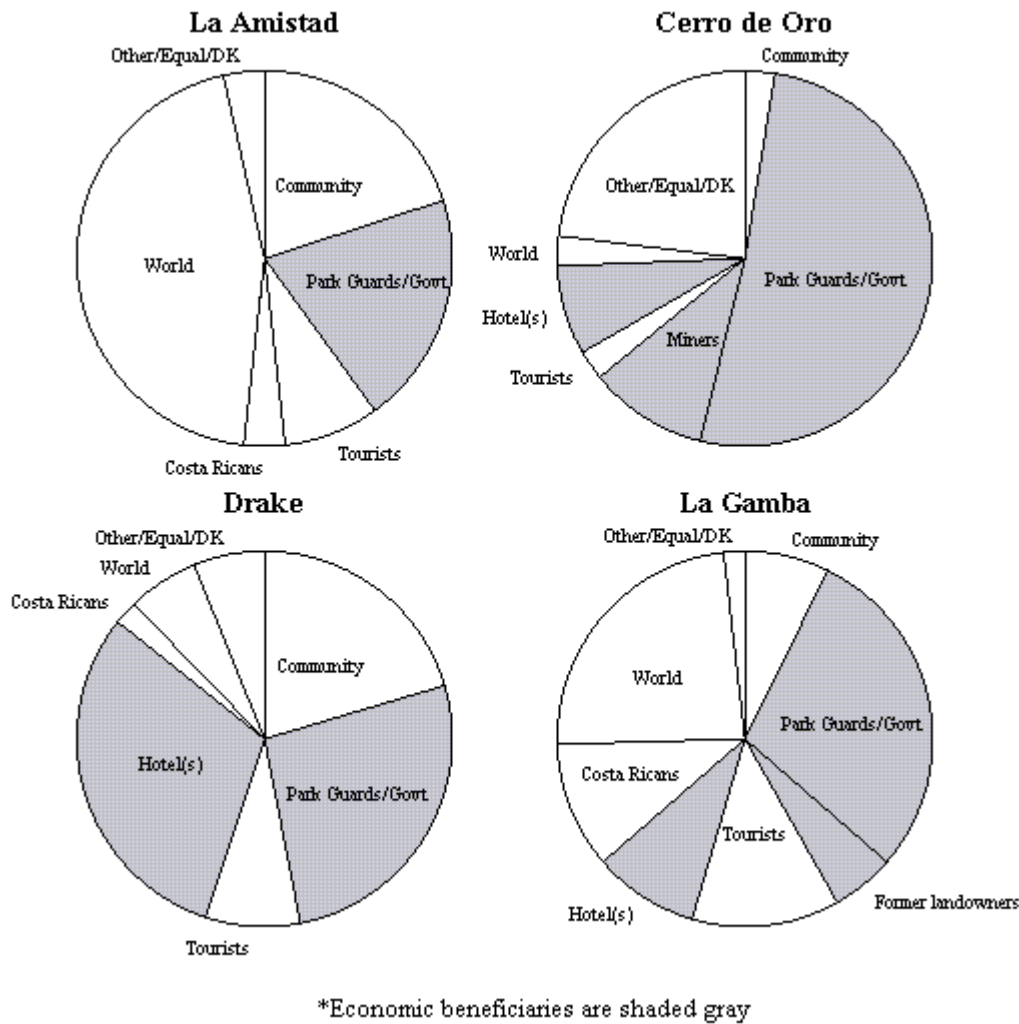


Figure 5. People/institutions benefiting most from neighboring park.

An emerging concern in the integrated conservation and development (ICDP) literature relates to what some term a “conservation back-fire” (see, e.g., Langholz 1999). The typical example involves improving income sources and employment opportunities for rural landowners. ICDP theories hold that this would occupy the landowner’s time, satisfy economic needs, and avoid the need to exploit local resources. Critics of ICDPs claim such views are short-sighted, arguing against assumptions that people have fixed income needs they will not be motivated to surpass (see Brandon and Wells 1992, Ferraro and Kramer 1995, Langholz 1999). These critics would contend the rural landowner now has money to invest in chainsaws or in employing additional people to work his/her land. For the communities participating in this study, this does not appear to be an issue. Most people claim to have used tourism money primarily for basic subsistence, health, education, and home improvements. When asked how they would spend their money if they had additional disposable income, family well-being emerged as the most important, followed by savings, personal amenities, and tourism investment. Many said they would invest in some resource-intense practice, but when I asked them to choose the first or most important thing they would do if they had more money, only 3% indicated investing in such practices, as compared to 35% who said they would work on improving family well-being. In general, little anecdotal or survey data indicates people are investing tourism income in more intensive resource exploitation. Moreover, there is no evidence that, with increased incomes, people would invest in environmentally destructive practices.

Indirect tourism benefits

While tourism employment was a reliable predictor for percent land an owner keeps in forest, indirect tourism benefits (indirect income, ideas exchange, training, and infrastructure improvement) did not prove to be useful predictors. Those who enjoyed these four tourism-related benefits, however, did show pro-conservation trends for the hypothetical behavior question regarding what they would do with their money if they had more. All associations were highly significant, with the exception of indirect income. Moreover, for a majority of the perspectives statements, at least three of the four categories of indirect tourism benefits showed a positive association, some highly significant, with pro-environmental responses. Thus, it appears the distribution of a variety of tourism-related benefits is associated with positive conservation perspectives and may even play a role in influencing those perspectives. Again, this reinforces parts of Hypotheses 1 and 2. Specifically, greater participation in tourism and its benefits will generate pro-conservation attitudes and behaviors, and income generation alone is not sufficient to encourage conservation. As seen here, the less direct tourism benefits are the ones that are more strongly associated with conservation perspectives. This finding coincides with work by Salafsky et al. (1999) in which they suggest that non-cash benefits (e.g., infrastructure support, empowerment, improved environmental conditions, etc.) associated with enterprise-based conservation strategies may be more important than cash benefits.

Of the indirect tourism benefits, indirect income showed the fewest and least significant associations with pro-environmental responses, while ideas exchange showed the most significant and greatest number of associations. Training and infrastructure, however, were not far behind ideas exchange. In the case of people who have benefited from tourism through the opportunity to exchange ideas with tourists, trends towards pro-environmental responses were evident in the vast majority of perspectives questions. Half were statistically significant, and

many were highly significant. Thus, this direct interaction with tourists may be an important factor in building greater support for conservation

Other factors influencing conservation perspectives and practices

For the linear regression model and chi-square tests, I also examined the influence of total land an owner has, relative well-being, religion, education, and age on conservation perspectives and practices. The following paragraphs summarize the associations observed.

Total land was, by far, the most significant predictor of percent land an owner dedicated to forest cover. Regardless of the other variables I tested, total land always emerged highly significant. This finding is not surprising and corresponds to many observations from study participants who expressed interest in having land in forest cover but asked how they could do so when they only owned two or three hectares to support their family.

One of the study's hypothesis is that income generation alone is not sufficient to encourage conservation. Implicit in this statement is that other factors, such as education, culture, religion, and upbringing, influence conservation perspectives and practices. Study results do not indicate religion has affected conservation practices. It does, however, appear to have an interesting association with conservation perspectives. When formulating my research questions, I expected religion to be important in instilling respect for the Earth. The results from the chi-square tests on most of the perspectives I chose to examine, however, showed a trend of those in the "don't know/none" category having a greater tendency to have strong conservation perspectives than Catholics or Evangelists. In nearly half the statements examined, results were significant for this unexpected association. While this puzzled me, I did run tests to determine religion's association with education. The tests of association revealed that the religion category of "don't know/none" had the greatest concentration of people with higher education levels. Thus, the trend observed may actually be due to higher education levels.

In the linear regression model and across the various perspectives examined through chi-square tests, relative well-being did not show any significant association with strong conservation responses. In addition, discerning any trends based on relative well-being was not possible.

Because education did not prove to be a good predictor for percent land in forest, I dropped it from the linear regression model. Education did, however, have a strong and significant negative association with people's tendency to state they would invest in a resource-intense practice if they had more money. In addition, higher education levels tended to correspond with stronger conservation perspectives.

Age was not a significant predictor of percent land in forest cover, and it had no discernible influence on people's preference for engaging in resource-intense practices if given more money. In terms of perspectives, it is difficult to detect a general trend. I expected younger people to have stronger conservation perspectives, but there were no statistically significant responses supporting that expectation. In fact, there were only three instances in which data indicated that trend might be occurring. In a couple of cases, one of which was statistically significant at $p < .01$, I observed an unexpected relationship between age and conservation perspectives. In response to

the statement, “The most important thing about forests is to make money with them,” older and younger groups tended to disagree the most. Although I did not anticipate this distribution, it does make intuitive sense. Younger people may be more environmentally aware and concerned because they have grown up in a time when environmental issues are at the forefront. Older generations may also disagree with this statement because they grew up in close contact with the forests, depending upon them for their food, health, and livelihood. Moreover, they may still hold on to conservation-oriented cultural norms lost in subsequent generations. In general, however, this study did not show age to have a strong association with either conservation perspectives or practices.

Broader policy concerns

Perhaps the more important issue in alternative economic development strategies to forest and wildlife management relates to the capacity for these strategies to address larger conservation threats (see, e.g., Kramer et al. 1997, Langholz 1999, Salafsky et al. 1999, Ulfelder et al. 1998, Wells et al. 1992). Such small-scale initiatives can likely only have small-scale impacts. This is not to detract from small successes, but rather to emphasize that conservation through development should not be a stand-alone protection strategy. In the case of Corcovado, government-sanctioned large-scale logging represents the primary threat to the buffer zone (see Barrantes et al. 1999, for a full discussion). In Drake Bay, three hotels have come together to form the Fundación Corcovado, an organization dedicated to lobbying for improved protection of PNC. Despite such admirable efforts, ecotourism’s impact on larger, policy decisions will likely only be minimal. Furthermore, given the larger and more complex context, it is important to recognize that, even if ecotourism always positively influenced conservation perspectives and practices, local communities may not be the larger threat to the surrounding forests.

Protected Area Management

Perhaps one of the most surprising findings across the communities was the lack of familiarity people had with the park bordering their community. Most had never visited the park, and few understood why it had been created. Even more startling was the fact that, in La Gamba, some people did not even realize a national park abuts their community. They do not have a clear concept of what benefits a park can provide, and most viewed it as the State’s issue. Clearly, the park service has not been very effective in creating understanding or raising awareness amongst communities. This fact is also revealed through the few people who claim to have learned about forests and wildlife through park guards or personnel (Table 4 and Figure 6). Those who have interacted with park personnel complain they are from outside areas and do not understand local circumstances. Moreover, they hold their technical knowledge, in terms of forests and wildlife, is seriously deficient. All these factors lead to decreased legitimacy for park personnel at the community level.

Many people expressed strong economic views when identifying park beneficiaries, despite the fact that qualitative interviews uncovered a wide range of other values people associate with parks, including ecosystem services, forest and wildlife protection, and aesthetic and recreational enjoyment. It is unclear, however, how much this economic orientation is due to semantics and

the interpretation of the word “benefit” versus some deeper meaning associated with an economics-focused value system. This issue certainly merits further study.

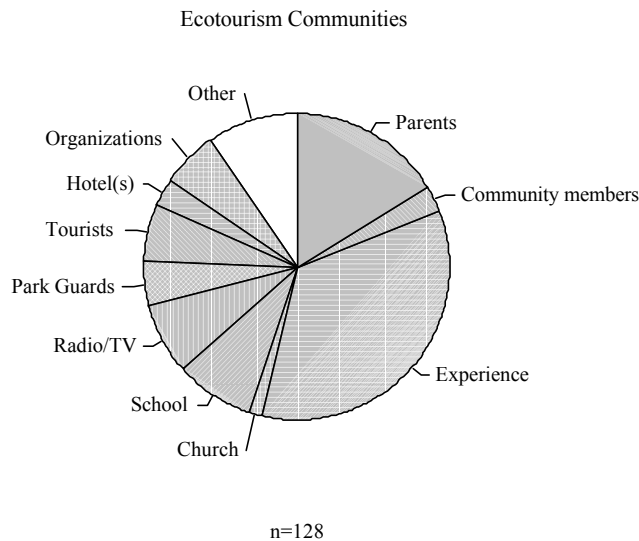
Table 4. Sources of environmental information, ecotourism communities.

Source of environmental information (n=128)	Affirmative responses
Experience	98%
Radio/TV	80%
Parents	66%
Tourists	66%
School (n=95) ^a	61%
Organizations (n=97) ^b	61%
Community members	60%
Park Guards	55%
Hotel(s)	50%
Other	37%
Church (n=107) ^c	32%

^a The discrepancy in sample size is due to the fact that 33 people did not attend school.

^b Since no extension organizations work in Cerro de Oro, I did not ask this question there.

^c The discrepancy in sample size is due to the fact that 21 people did not pertain to any religion.



Missing values (n/a or don't know) not included in percentages.

Figure 6. Most important sources of environmental information, ecotourism communities.³

Another clear message emerging from the study relates to equity in designing and applying park-related restrictions. To a certain degree, it is to be expected that people living closest to a park and subject to resource use restrictions will harbor some hostile feelings about limits imposed upon them. The case studies illustrate this has been the situation in southern Costa Rica.

³ I include only the ecotourism communities because the categories were consistent across these sites but varied in La Amistad. Nevertheless, park guards did not play a prominent role in La Amistad either.

Nevertheless, consistent anecdotal information indicates park time and resources are likely over-emphasizing the need to patrol communities and limit small-scale use, while simultaneously openly sanctioning wide-scale deforestation by timber interests. Many mused that they could not cut a single tree on their property to construct their home, while outside logging companies could send truckloads of trees out daily. Although companies must submit extensive management plans, numerous people claimed they do not comply with standards outlined in the plans. Barrantes et al. (1999) voice similar complaints. While this is common knowledge amongst Costa Ricans, the government turns a blind eye.

Finally, it seems the laws, as presently defined and applied, are creating perverse incentives that discourage wise land management. Some people confided they felt forced to clandestinely cut the one or two trees they needed for household use, rather than submit themselves to a costly and time-consuming bureaucratic process. Others said they made sure to periodically clear areas, even if they were not ready to plant them. Otherwise, the fallow land would regenerate to such an extent that the government would no longer allow them to work that area.

Source of Environmental Information

As is likely true in various cultures, the majority of people across the study sites professed they learned the most about forests and wildlife through their own personal experiences (see Table 4 and Figure 6). These experiences include working the land, hunting, growing up in the countryside, and witnessing first-hand the consequences of the way others have managed the land. With respect to the last category, it was interesting that at least a few people in each site referred to widespread deforestation and resultant arid conditions in the province of Guanacaste as an example of what they did not want to happen to their community. Thus, not only did they learn from this example, but they also felt compelled to act to prevent a similar situation.

In terms of most important sources of environmental information, parents were second only to experience (see Figure 6). People also mentioned that grandparents, as well as younger generations, were important in conveying environmental information and raising awareness. Radio and television are other factors contributing to knowledge on forests and wildlife. Many people referred to *La Planeta Azul* or similar television shows that have helped them understand the importance of protecting the environment. Some mentioned the role of school in advancing learning about forests and wildlife, but the importance of formal education is still relatively moderate. This may be partly due to the fact that I conducted interviews and surveys with adults who said teachers did not talk about the environment when they were in school. They acknowledged that today's children do learn more about this. Some even said they have learned through children who tell them about what they heard at school.

Under the most comprehensive definitions of ecotourism (see, e.g., Honey 1999, The International Ecotourism Society 1993), local capacity building is a key component, yet, across the sites, hotels play only a minor role in increasing environmental knowledge and training in general. As discussed previously, opportunities certainly exist for tourism operators to become more involved in deepening knowledge, understanding, and appreciation for forests and wildlife. It was surprising to see that more people actually cite tourists, compared with hotels, as important sources of environmental information (see Table 4 and Figure 6).

As discussed above, park personnel have also failed to contribute substantially to environmental learning in the communities the parks border. Quite a few people scoffed when asked if they had learned anything about forests and wildlife from the park guards. Some even said they felt they had to teach the park guards, claiming that most guards come from other parts of the country, often urban areas. Whether there is validity to these claims is not as relevant as the fact that many community members feel they learn little from park personnel.

Mistrust and Perceived Deception

Issues related to mistrust and perceived deception pervaded all study sites. In La Gamba, for instance, many residents continue to harbor bitter feelings towards the Esquinas Rainforest Lodge, claiming that the Austrian government reneged on promises that hotel ownership and management would transfer to Gambeños once the lodge opened. Meanwhile, Cerro de Oro residents resent the harsh policies park personnel administer and the lack of respect they show towards the miners. In Drake Bay, people are concerned about struggles to secure title to their land and feel they are pawns of governmental agencies battling out this issue. The La Amistad communities, as well as Gambeños, complained the government has delayed or neglected to offer compensation for *campesinos* with land bordering the park. When it does offer compensation, it is often too little. Although, in many cases, mistrust or perceived deception may result from poor communication and/or misunderstandings from both sides, it is still an issue of concern because it certainly affects how people view the entities working in their communities.

Despite the fact that I did not actively pursue the issue, several interviewees in the ecotourism sites expressed dismay at their lack of benefit from and participation in conservation incentives programs. They have heard other countries donate money for people living near protected areas, but they have never directly received any of those funds, nor do they know how to access them.⁴ In Cerro de Oro, when I held a meeting to present preliminary results and thank the community for their participation in the study, a miner raised his hand and remarked, “Well, this is all very interesting, but you are missing the main point.” When I asked him what the main point was, he replied that they needed to know what was happening with all the conservation money other countries were donating. Again, although this falls outside the study’s main focus, it is an important issue that deserves consideration and offers an opportunity for further, in-depth research.

CONCLUSIONS AND RECOMMENDATIONS

Results from this research portray a very complex picture of ecotourism’s effectiveness in protected area management. The case studies illustrate how scale influences the distribution of benefits and impacts associated with tourism. At a large scale, ecotourism may offer significant economic benefits and discourage the conversion of forest to agricultural and pastoral land. On the other hand, negative impacts, such as increased solid waste generation, social and cultural disintegration, and rising costs of living may also accompany ecotourism, especially when it

⁴ In informal conversations with Paul Ferraro, a recent Cornell graduate who has studied the conservation incentives program, I learned that the Costa Rican government has, to date, implemented the program in only a select area of the country.

occupies a major role in the local economy. In places where tourism may dominate, it would be wise for communities to diversify the economy so they are not dependent on one product and highly susceptible to any fluctuation in demand. It would be imprudent to suggest there is an ideal, prescribed level at which tourism offers the maximum benefit for the least impact, as successes and failures are often context-specific, depending upon local culture and background, as well as ecotourism operators' approaches to tourism and community development. Nevertheless, it does seem clear that possibilities for maximum conservation and development will occur when ecotourism is a significant force in the local economy and offers widespread benefits but does not comprise the community's sole economic base.

There is a need for a more critical examination of the costs and benefits associated with ecotourism. Policymakers, practitioners, and academics alike need to move beyond considering ecotourism as a non-consumptive use of resources. Under ideal circumstances, it may be a less consumptive use of resources than other available alternatives. The few cases examined here illustrate its potential to positively affect conservation behaviors. The research reveals that economic factors, however, are not the sole motivators affecting conservation perspectives and practices. Thus, ecotourism should be considered a component of a larger plan that addresses protected area management through a variety of avenues, including legal restrictions. With respect to restrictions, however, it is evident there is a need for wider policy reform. It is neither sound conservation policy nor morally just to sanction wide-scale deforestation while prohibiting subsistence-level landholders from cutting a few trees for household consumption.

Study results also imply ecotourism falls short of influencing conservation perspectives. Few community members felt the tourism lodges were an important source of information on forests and wildlife, and there is scant inter-community evidence direct employment in tourism is having any significant impact on conservation perspectives. This leads to the question: Should conservation strategies aim for a higher level of awareness, or is it sufficient to simply occupy people's time or create economic incentives that make standing forests more valuable? I would argue for loftier goals. Otherwise, questions will remain: If people had time, would they hunt? If tourism levels dropped, would a standing forest lose its value? A higher level of awareness or appreciation, however, could ensure greater potential for favorable conservation practices over the long term. Findings from Salafsky et al. (1999) also suggest that education and awareness raising might be important in assisting conservation-based enterprises to achieve their environmental goals.

Interestingly, indirect benefits associated with tourism, especially ideas exchange and training, may have a greater positive influence on environmental perspectives. These findings have at least two implications. Firstly, it may be wise to focus on how to extend the coverage of such indirect benefits. Ecotourism lodges may gain much by, for example, facilitating greater, culturally-appropriate interaction with tourists and improving training opportunities for all employees. Moreover, they may buy goodwill with the community by supporting infrastructure and community development projects, although decision makers should be careful such support is meaningful and not used to manipulate communities. The second implication regarding ecotourism's minimal impact on conservation perspectives is the potential for ecotourism operators to play a greater role in local capacity building and environmental awareness. Under ideal circumstances, education should not be limited to employees or the local communities. It

should extend to the ecotourists themselves, with an emphasis on ecological, cultural, and social history of the region they are visiting.

Capacity building is a key concern for many Costa Ricans, as became clear in a follow-up meeting with various institutions working in conservation, tourism, and park management in Puerto Jiménez in June 2001.⁵ People at this meeting expressed concern that capacity building should extend beyond training in menial tasks. Rather, it should focus on building entrepreneurial expertise so that Costa Ricans have as many possibilities at tapping into the tourism market as do foreigners. This is probably not the duty of tourism operators, but conservation or community development organizations might want to consider how to address such concerns to help increase meaningful participation in tourism at a broader scale. There does seem to be some movement in this direction, as evidenced by the recent creation of The Association for Sustainable Tourism Development in the Osa Peninsula (ADETUS). This group was a direct offshoot of recommendations from a tourism consultancy financed by the Japanese International Cooperation Agency. Its mission is to promote the development of sustainable tourism activities in the Osa Peninsula in a way that ensures the least environmental impact, the most social benefit, the fulfillment of legal and regulatory obligations, and natural resource conservation into perpetuity (González 2001). ADETUS is very young, and it is unclear if it will play a significant role in capacity building, but several people indicated they saw its creation as a positive development that might give communities and tourism operators a stronger voice in tourism development. They did, however, also indicate that, to be successful, those involved must not become mired in political maneuvering.

Across the ecotourism case sites, there was general consensus that local involvement in and benefit from tourism could be improved. This coincides with Honey's (1999) broader claim that ecotourism projects have shown disappointing results in terms of participation. To improve local involvement, people suggested simple measures, such as increased interaction between tourists and the community. This was especially the case in La Gamba, where people felt the tourists passed through town only to arrive to or depart from the lodge. People in La Gamba and Drake Bay would like to see increased opportunities to sell local produce or meat to the hotels. This would require efforts from both ends, with local residents ensuring a steady and predictable source of a particular product and the hotels committing to purchase that item at a fair, mutually-acceptable price. In addition, if hotels work towards increasing interaction between tourists and local residents, it will also be important to educate travelers on the local cultural and social history, so as to avoid negative impacts associated with cultural and familial disintegration. It may also be appropriate for ecotourism operators to organize cultural tours with a few different groups in the community to ensure a meaningful experience for the tourists as well community members.

Ecotourism lodges should play a more serious role in both being good neighbors and setting a model example for the local community. If, as was happening in Drake Bay,⁶ ecologically-

⁵ I returned to Costa Rica to present study results to the communities where I worked, as well as to interested organizations or people working in protected area management, tourism, and community development.

⁶ At the time of the study, some of the hotels were dumping kitchen wastes at sea. When I returned in June 2001, they had ceased that practice.

oriented hotels dump their organic garbage out at sea or clean their boat engines in the river, how can communities be expected to take seriously their ecological mission? Moreover, such practices could be perceived as a lack of respect for the environment, as well as neighboring residents. Very simple options, such as composting and recycling, are available to remedy these problems. Composting organic wastes would not only eliminate disposal needs, but it would also provide an opportunity for environmental education on sound waste management. When done properly, composting does not create the nuisance issues to which hotel operators referred. An ecolodge that composts could also highlight this management practice in its promotional materials, thus drawing in tourists interested in making environmentally and socially responsible travel choices. Although composting and recycling could help resolve some waste management practices, it is important to also consider the large volume of wastes generated. Some hotels, like La Paloma Lodge, have made great efforts to manage their wastes in the most ecologically-sound manner, but, as hotel management there indicated, to be truly ecological, it is necessary to factor in other costs, such as fuel costs to transport recyclables to recycling destinations. Moreover, they feel, due to the sheer volume of kitchen scraps, it is not feasible to use composting as the only waste management strategy. Based upon these observations, it would be worthwhile to contract a waste management consultant to devise more creative solutions to garbage disposal problems.

Here I have summarized some of the main conclusions and common issues seen throughout the research sites. Each case study, however, offers community member suggestions on how to improve tourism and local participation in tourism at the different sites. For more detailed, context-specific recommendations, readers should review the case study chapters. In addition, it is worth clarifying that the suggestions here will not always be appropriate in every site. They are ideas of how to work towards an ideal ecotourism, but it is important to always keep in mind the local realities and the feasibility of implementing such recommendations.

This study contributes knowledge on the role of ecotourism and alternative economic development initiatives as protected area management strategies. Nevertheless, it provides only a snapshot of what is occurring in three Costa Rican communities at a single point in time. Thus, there is a need for similar studies in other areas, as well as more systematic research on benefits and impacts and ecotourism's overall role in conservation. Ideally, studies should follow the same communities over several years to collect baseline and subsequent monitoring data for comparison over time with exposure to tourism. Through more in-depth studies and a firm commitment from tourism operators to more seriously embrace and advance conservation strategies and ensure meaningful local involvement, ecotourism stands a greater chance of positively impacting conservation and development.

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