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**Ecotourism and
Conservation:**

A Review of Key Issues

Katrina Brandon

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**Ecotourism and Conservation:
A Review of Key Issues**

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Executive Summary

Ecotourism is a subset of the spectrum of tourism types which make up nature-based tourism. Ecotourism is often viewed and promoted as being consistent with conservation objectives because it is small-scale with limited ecological and social impacts. In contrast, nature-based tourism, because of its larger scale, is often used to promote national development objectives rather than conservation objectives. This review of some of the key issues of ecotourism and nature-based tourism highlights the complexity of using tourism as a tool for conservation.

One of the advantages claimed for ecotourism is that it is seen as more ecologically and culturally sensitive and less likely to bring the negative impacts associated with mass tourism. How well ecotourism lives up to these criteria depends principally on the planning process prior to ecotourism initiatives and the management controls and involvement of stakeholders once they begin.

The demand for nature-based tourism and ecotourism has been steadily increasing, a trend that can be expected to continue. Trips exist in a variety of price ranges and styles and more are being developed all the time. The key determinants of what tourists want seems to be determined by their knowledge, their desired level of excitement versus predictability, available vacation time, and cost. This means that there are some limitations to the expansion of ecotourism to "rougher" sites where costs and travel times are high and there

is low predictability about the quality of the experience, including elements such as reliable wildlife viewing. Remote rainforest sites, often high in biodiversity, are notable in this category.

Five key benefits for conservation which can be appropriately targeted in the context of most ecotourism and nature-based initiatives are:

1. a source of financing for parks and conservation;
2. economic justification for park protection;
3. economic alternatives for local people to reduce exploitation of conservation areas and resources;
4. constituency building which promotes conservation; and
5. an impetus for private conservation efforts.

This paper reviews experiences with ecotourism across the globe. Despite tremendous differences in size and management of protected areas, cultures, types of ecotourism enterprises and government involvement, in most cases, ecotourism and nature-based tourism have not lived up to expectations. Nevertheless, they remain a potential avenue for conservation.

If ecotourism and nature-based tourism are to generate benefits for biodiversity conservation, there are a number of conditions which have to be met.

- First, sites must be competitive (e.g. unique and able to attract visitors).

- Second, protected area authorities must have the capacity and jurisdictional mandates to design, implement and manage sustainable ecotourism consistent with the protected area objectives.
- Third, fees must be collected and they must reflect the management costs of tourism and/or site protection.
- Finally, revenues from fees should first be allocated to the parks where collected with leftover funds applied toward priorities in overall biodiversity conservation in the country.

Ecotourism can generate benefits to local communities such as employment, although these are frequently seasonal or low-paying jobs. At the community level, ecotourism may generate increased revenues, provide for more infrastructure such as roads and electricity, or provide proceeds from ecotourism for community projects such as school construction, and health clinics. Despite this, economic benefits from tourism often create insufficient incentives for local communities to support conservation. Such benefits may be offset in the eyes of local communities by the intrusion of tourists, greater income inequality within and between local communities, increased pollution, sequestering of profits by outsiders, and rising local prices. The literature demonstrates that such benefits will only come about as the result of clear planning and management.

Nature-based tourism can be a significant component of some countries' national development strategies, providing foreign exchange, employment, economic diversification, and growth. However, the economic benefits of foreign exchange gains may be reduced by economic leakages due in part to an inability to capture income in the rural areas where nature-based tourism sites are situated. Likewise, while nature-based tourism offers employment that may have national significance, it is generally less labor-intensive than often assumed. Increasing opportunities for local income generation may assist conservation efforts if the economic benefits are directly linked and dependent on conservation.

Regulation, financing and management of ecotourism are generally not viewed as government priorities. Without adequate regulation of private sector activities and sound protected area management, ecotourism development may have adverse impacts on the resource base upon which it depends. While direct budgetary allocations may be necessary at the front-end to see that projects are well-managed, ecotourism could be an important source of financing through improved collection and pricing of user fees and taxes on direct and indirect expenditures on goods and services. Planning, if undertaken, is often fragmented among government agencies with unclear jurisdictions and few funds.

Despite such problems, ecotourism represents one of the few areas where the link between economic development and conservation of natural areas is potentially clear and direct. This paper offers a set of recommendations which diverse organizations and groups may implement to help ecotourism serve as a vehicle to provide environmental, socio-economic, and cultural benefits at both local and national levels.

- Protected areas site management should define clear objectives for the area as well as outline how tourism can be accommodated within those objectives; determine the acceptable limits of ecosystem change within ecotourism destinations and establish ongoing monitoring programs; and develop and implement management plans and practices to control, regulate, and enhance tourism to the area.
- Local communities should learn about impacts, options and possibilities of ecotourism development; explore means for ownership of specific ecotourism ventures; and consider strategies for ecotourism as compensation for restricted access to protected areas, including coordinated investments in local infrastructure and services that improve local quality of life and collection of local user fees from tourists which support local development initiatives.

- Governments should supplement ongoing activities to improve the sustainability of ecotourism, including requiring the development of ecotourism strategies as components of government documents as well as clarifying the jurisdictional mandates and responsibilities of agencies involved in ecotourism planning and management. In addition, governments should develop pricing policies for use of ecotourism sites which reflect the social cost of operating and maintaining such areas and decentralize responsibility for area-specific ecotourism strategies and developments.
- The private sector should support the collection of user fees from tourists when these are dedicated to maintaining and improving the quality of parks and protected areas; develop facilities which are environmentally and culturally appropriate in scale, construction, and context; introduce sound environmental practices including waste reduction and recycling; and explore joint ventures and partnerships with local communities, NGOs, and other organizations for ecotourism development.
- NGOs and academic institutions should act as intermediaries between the private sector and local interests in ecotourism development; identify technologies and products that are produced or used locally and which are economically and environmentally sustainable in order to reduce waste; provide local groups with training, technical assistance and information necessary to participate in the benefits and employment opportunities from ecotourism; and collect information, monitor, and evaluate ecotourism development.
- International institutions should integrate planning for ecotourism into programs related to both conservation and cultural patrimony; use social assessment guidelines to identify stakeholders in ecotourism activities; integrate indigenous knowledge and natural resources management systems into ecotourism development; accelerate efforts to protect the world's cultural and natural heritage; and promote environmental education.

1 Introduction

What is Ecotourism?

Proponents claim that ecotourism "is a mode of ecodevelopment which represents a practical and effective means of attaining social and economic improvement for all countries [Ceballos-Lascurain, 1991:31]." Definitions of ecotourism have evolved from emphasizing nature-oriented tourism to one which emphasizes both natural and cultural goals. The Ecotourism Society defines ecotourism as: "purposeful travel to natural areas to understand the culture and natural history of the environment; taking care not to alter the integrity of the ecosystem; producing economic opportunities that make the conservation of natural resources beneficial to local people [Ecotourism Society, 1991]". This definition gives no baseline about the scale of tourism although it implies low impact and little disruption of the ecosystem.

There is no standard nomenclature in the field and much of the literature fails to differentiate between nature-based mass tourism and nature-tourism which is small and limited. A recent review described four types of travel that are commonly given the ecotourism label: 1) nature-based tourism; 2) conservation-supporting tourism; 3) environmentally aware tourism; and 4) sustainably-run tourism [Buckley, 1994: 661]. Most conservation groups would assume that all of these attributes make up ecotourism; in contrast, industry representatives and governments generally regard ecotourism as equivalent to nature-based tourism and argue that all tourism should be environmentally sustainable.

Most discussion of tourism eventually turns to the issue of scale. There is a continuum of tourism activities and impacts; what is appropriate will depend on site-specific judgments. In an effort to differentiate the issue of scale, **this paper uses ecotourism to refer to a scale that is small with limited ecological and social impacts.** Nature-based tourism is used when scale is not the distinguishing feature but nature clearly is, such as travel to the Galapagos or tours to Kenya. Finally, tourism is used generically and as the broad sector of which ecotourism and nature-based tourism are a part. It is important to note that while the paper tries to separate these strands, the literature itself does not adhere to this nomenclature.

Ecotourism is seen as a potential vehicle to provide environmental, socio-economic and cultural benefits at both local and national levels. Claims for ecotourism's potential are generally based on three key assumptions, that ecotourism can: a) offer a source of financing for development or maintenance of natural or culturally important sites; b) serve as a catalyst for local economic development; and c) provide needed foreign exchange and national level benefits. More specifically, conservationists see ecotourism as one of the most promising strategies for providing funds for conservation and justifying its importance. In addition to providing a source of revenue for parks and conservation, there are numerous examples where ecotourism is claimed to provide the economic justification for park protection. At local levels, it can provide economic alternatives to encroachment into conservation areas,

and it can create an impetus for private conservation efforts. Finally, it can help create an awareness of conservation issues and create a constituency for conservation action.

Despite these claims, even ecotourism's proponents agree that they are more often rhetoric than practice.

There are few well-documented cases where ecotourism has provided substantial social or economic benefits. In some cases, ecotourism has led to ecological damage and environmen-

tal degradation, negative impacts on local culture, and creation of local economic hardships [Ceballos-Lascurain, 1991; Boo, 1991; West and Brechin, 1991]. Yet in discussing the impacts of ecotourism, it is important to keep in mind that these ecotourism impacts — positive or negative — are not fundamentally different from any other form of tourism. While the intent may be different, the impacts are generally the same. Therefore, the discussion about ecotourism is simply a more focused discussion of the debates that rage over tourism.

2 Tourism: The Industry

To understand adequately the potential contribution of ecotourism and nature-based tourism to conservation, it is essential to place it within the overall context of the tourism industry. Travel and tourism is the world's largest industry. Estimates for 1995 [World Travel and Tourism Council, 1995] indicate that travel and tourism:

- will generate 10.9% of world GDP, or \$3.4 trillion;
- will contribute over 11.4% of the world's capital investment;
- will contribute over \$655 billion to total tax payments worldwide.

Tourism is also a growth industry: world tourism grew by 260% between 1970 and 1990. Increasing global ties have led to increased travel for business, conferences, visits to friends and relatives, and trips for leisure. One projection suggests that the growth in travel and tourism will be between 2% and 4.5% per year. If growth reached 4.5%, world travel and tourism would increase by over 50% to around 600 million international arrivals and up to 55 million jobs by the end of the nineties [World Travel and Tourism Council, 1992].

International travel and tourism respond to market forces, particularly the growth in real income, leisure time, and developments in international transportation. The continued rise in real income and leisure time in the developed countries has led to a strong demand for tourism: one study showed that consumers in developed countries respond to a 10% increase in real income by increasing their foreign travel expenditures by 15 to 20% [Artis in Goldfarb, 1989: 13]. All countries generate and receive tourists, but there is a net outflow

of tourism funds from the North to the South. Developing countries' market share increased from 20% of international tourism receipts in 1980 to 23% in 1988. If one compares tourism revenues to export revenues, tourism accounts for more than 10% of the value in 47 developing countries and more than 50% of the comparable amount received from export revenues in 17 countries [Healy, 1992: 4].

The Demand for Ecotourism

Within this travel boom lies ecotourism, a type of specialty travel which includes travel for such diverse purposes as birdwatching, helping scientists conduct conservation research, and photography. Worldwide figures for special interest travel are unavailable, but it remains a small market segment of international travel. For example, special interest travel accounts for 3% - 5% of international travel expenditures (excluding airfare) by U.S. residents, with nature-oriented travel comprising one-third to one-half of that figure [Goldfarb, 1989: 8].

There are no reliable estimates available for the world-wide expenditure on ecotourism. Conservative estimates of the growth in demand range from 10-15% while optimistic forecasts go as high as 30% in the mid 1990s [Vickland, 1989; Kallen, 1990]. The optimistic projections forecast annual global nature-oriented travel at \$260 billion by 1996 [Giannecchini, 1992]. However, a recent study of the U.S. market indicates that the U.S. nature-oriented tour market may be less than 1% of the outdoor recreation market, or a maximum amount of about \$160 million per year [McKinsey Group, 1991]. Such discrepancies in numbers, \$160 million for the U.S. nature-based tourism

market versus \$260 billion for the global market are due not only to differences in projections, but to the very different definitions used by different groups all wanting to jump onto the "green" tourism bandwagon.

Estimates of what will happen with the ecotourism market vary dramatically, and there are contradictory trends. Studies of U.S. consumers showed that:

- 40% of American travelers were interested in "life-enhancing" travel as compared with 20% who were "seeking the sun."
- About 30 million people in the U.S. belong to environmental organizations or have an interest in environmental protection [Hawkins, 1992:3; Mudge, 1991].

These projections must be tempered by other factors. For example, surveys of U.S. citizens reveal that:

- Only 8% hold valid passports and one in five have never travelled more than a 50-mile radius from their home.
- 17% are in poverty and are not planning expensive vacations [Merschen, 1992: 212].

There is anecdotal evidence that development of ecotourism facilities in many developing countries has been demand driven, i.e. people have shown up at destinations needing food and lodging and this has led to provision of services. This phenomenon is now called "spearheading". In many remote wilderness areas, however, the supply of ecotourism facilities lags behind demand. For example, tourism to the Amazon increased by nearly 300% between 1988 and 1989 but facilities were lacking at many sites.

The demand for ecotourism not only depends on the prices and supply of nature-based tourism, but on the class of people who are the ecotourists. The variety of ecotourism experiences has been increasing to meet the diversity of demands. Some people want to learn about wildlife or indigenous peoples. Others are adventure oriented tourists — people who want to climb a mountain, or raft down whitewater rapids. Profiles of tourists taking

guided nature-based trips with U.S.-based companies indicate that the prime ecotourism market is composed of men and women 45 to 65 years of age, mostly from North America, Europe, or Japan. While it is safe to say that the demand for ecotourism is increasing worldwide, ecotourism is and will probably remain a small and specialized component of the world tourism market. Ecotourists will largely be made up of wealthier, better educated, and older travelers. However, selected markets have and will continue to be developed to cater to different groups and their preferences and needs, such as backpacking, student holidays, and singles vacations.

Four types of ecotourists are described as:

Hard Core: members of tours or groups designed specifically for education and/or involvement in environmental projects, such as wildlife monitoring.

Dedicated: travelers to see protected areas and understand local natural and cultural history.

Mainstream: tourists primarily interested in an unusual trip, such as to the Amazon or gorilla viewing in Rwanda.

Casual: natural and cultural travel as an incidental component of a broader trip [Lindberg, 1991: 3].

Ecotourists are further differentiated by the physical rigor they are willing to undergo on a trip. A "hard" ecotourism trip may require the tourist to "walk miles into undeveloped backlands, sleep in a crude shelter, and tolerate primitive sanitary conditions." A "soft" ecotourism experience might have the visitor "stay in first-class hotels, eat in good restaurants, and be conveyed in comfortable transport [Wilson, 1987:8]". Backpackers fall into the "hard" category in terms of needs, but may be motivated by any of the factors from "hard core" to "casual" described above.

The difference between these groups is important for the type of services ecotourists want when they get to destinations. In general, it is the "hard" ecotourists who are more likely to be content with less infrastructure and more likely to value contact with local people and close

encounters with wildlife. At the same time, there is the perception that "hard" tourists spend less, generating fewer national level benefits. What may be significant however, is that even though "hard" tourists spend less on a daily basis, they stay longer than "soft" tourists and spend their money at small, locally-owned and operated enterprises [Singh, 1989]. While "soft" ecotourists place a higher value on comfort, they are willing to pay more for it and for an interesting experience. These tourists require more in the way of services, which are generally linked to greater environmental impact.

These differences in tourist type have substantial implications for how facilities are designed, the impact from tourism, and what type of ecotourism is encouraged, especially with regard to protected areas (PAs). Parks intent on attracting sustainable ecotourism and generating high levels of revenue will have to make some trade-offs. It may be possible to accommodate both "hard" and "soft" tourists, but a guiding principle should be to minimize the impact of tourism and infrastructure. At Royal Chitwan National Park in Nepal, the lodges and services range from first class hotel service and safaris on elephant-back to basic accommodations and wildlife viewing [Wells & Brandon, 1992].

The Supply of Ecotourism Services

Distribution channels typically involve up to four parties: suppliers, wholesalers, retailers, and consumers [Hudman and Hawkins, 1989]. Most of the supply chain is owned or controlled by developed countries, for all types of tourism, including ecotourism. For example, airline and hotel chains in major cities are often controlled by outside interests. The consumers also tend to be from developed countries. Tour operators tend to be from outside the country, although they often contract with locally-owned enterprises for transportation and local arrangements. In the tourism industry, a large geographic distance between tourism suppliers and potential consumers normally prevents suppliers from selling directly to consumers. This is especially true for ecotourism ventures, which are often located in remote areas. More than other kinds of tourism, ecotourism

requires high levels of coordination throughout the distribution channel. This is in part because ecotourists place more specialized demands on destination points than other types of tourists (guides, equipment, transport).

Although developing countries are often visited by specialty tours, most operators concentrate on only a few countries. A survey of U.S. ecotour operators found that Mexico and Puerto Rico were perceived as destinations with the greatest variety of ecotourism activities (e.g. birdwatching, hiking and rafting), while Kenya, Tanzania, and Nepal were the most frequently promoted destinations [Ingram and Durst, 1989]. Perhaps more significant than the high-value direct tours is the huge potential for "add-on" tourism aimed at people who travel to destinations for reasons other than ecotourism: business, visiting family or friends, or "sea, sun, and fun" tourists. Few of these tourists would pay a large sum of money exclusively to visit special natural or cultural sites. But many are willing to spend a portion of their vacation, and more money and time, for a unique experience which adds to their overall vacation or trip. This is where high potential exists for locally-owned and managed tour operations.

Tourism: Factors Which Limit Its Potential

While global prospects for the tourism industry are promising, success for individual countries and projects are subject to a number of factors, many of which are beyond the control of tourism suppliers, wholesalers, or operators. The key factors are political, social, environmental, economic, and technological. Ecotourism is affected by all these factors as well as trends which have little bearing on the rest of the industry.

Political factors such as ethnic conflict in the host country can quickly hurt tourism revenues. Sri Lanka, Haiti, Guatemala, and Rwanda have all had substantial drops in tourism linked to civil and ethnic unrest. A rise in international airline terrorism can also hurt tourism revenues in some countries.

Social forces include concerns about personal safety, health, and general impression of the country. Bad press and lack of knowledge about the destination country can deter some tourists from choosing some countries [Ingram and Durst, 1989:12]. The fear of disease can lead to tourism declines; the Kenyan coast and Thailand have both seen a drop in tourism due to the fear of AIDS, and tourists avoid parts of Africa because of malaria [Anon., 1992c: 22].

Environmental factors include seasonality, natural disasters, and pollution. Two types of seasonality need to be considered, that in the origin country of tourists (eg. school summer vacation) and that of the destination country (eg. monsoon season). Earthquakes, volcanic eruptions, hurricanes, prolonged drought and a variety of other natural disasters can scare off tourists.

Economic factors, such as global exchange rates may help one region or country while hurting another. Recessions and exchange rates have a profound influence on who travels and where they go; economic factors strongly influence the operators' choice of destinations.

Finally, **technological** issues of communications and marketing affect information flows [Hudman and Hawkins, 1989: 150]. Operators and tourists are more likely to go where communications are possible to help with trip planning and last minute changes. In the remote regions where ecotourism is most popular, communications are often poor or non-existent.

There is evidence that factors which would normally deter more conventional tourists (different food, simple lodging) may in fact be preferred by the "hard" ecotourists. Yet the basic problems of difficult access to sites and lack of communication complicate ecotourism

from the industry perspective. Other problems are inconsistent local service suppliers in remote areas and lack of local tour operators. These all present problems for organized tours, but are unlikely to deter ecotourists traveling independently, who are more likely deterred by external factors [Hawkins, 1992: 12-13; Ingram and Durst, 1989]. Internal factors are more likely to influence the quality of their trip, not its selection.

The demographics of ecotravelers bears considering as well. At present, most ecotourists are from the U.S., Europe, Canada, and Australia. As the populations of the U.S. and Europe age, there is huge potential for increased travel, as a larger number of people have leisure time. Yet the "soft" versus "hard" distinctions among ecotourists, and how these compare with the offerings at different sites, is a key issue for the future supply of ecotourism facilities. The combined aging of the populations of the U.S. and Europe, and the fact that the "baby boomers," the generation born between 1946 and 1964, are entering middle age signal some important, new demographic trends. They will have the leisure time and the money to enjoy ecotourism experiences. Yet if access to most new sites is difficult and requires travelers to be in good physical condition, the demand may be reduced. In short, what tourists want seems to be determined by their vacation time, their knowledge of what is available, the level of excitement or predictability they want, and cost. This means that there are some limitations to the expansion of ecotourism to "rougher" and more remote sites – where costs and travel time are high and there is low predictability about the quality of the experience, including elements such as reliable wildlife viewing. Remote rainforest sites, often high in biodiversity, may have limited tourism appeal because of difficulties of access and low likelihood of seeing wildlife.

3 Conservation and Ecotourism

The interest in conservation, especially in the decline of tropical forests and the loss of endangered species, has skyrocketed in most of the North in the past decade. The increase in nature-oriented tourism has coincided with worldwide concern about biodiversity preservation. There has been an explosion of conservation-oriented travel-related services catering to tourists, both as part of packages and for individuals traveling on their own.

Parks and protected areas are among the most important ways to conserve biodiversity. Nearly 8,500 protected areas cover about 5.17% of the earth's land surface, over 773 million ha. The growth in protected areas has been staggering; 80% of the world's protected areas have been established since 1962 [World Conservation Monitoring Centre, 1992]. Since 1970, more parks and reserves have been established than previously existed; for example, "officially gazetted protected areas (in Central America) have increased from only 30 in 1970 to more than 230 by 1990 [Cornelius 1991]."

Most parks are under serious threat from many different sources, from poor peasants who have few alternatives but to practice "slash and burn" agriculture to large-scale development projects promoted by international lending institutions. But the bottom line is that most countries lack the financial and human resources and political commitment for protected area management. Many governments fail to look at park management and conservation as a legitimate form of land use. Many recently established parks are little more than "paper parks," because they really do exist only on paper. Even if established, most protected areas lack effective protection. For example, nearly

three quarters of the protected areas in Latin America lack effective protection; an even larger percentage lack long-term management plans and financial resources to guarantee financing for effective management [World Conservation Monitoring Centre, 1992]. Ecotourism is often proposed as a mechanism to provide benefits both to individual parks and to national conservation systems as a whole. Proponents identify five key benefits for conservation from nature-oriented tourism: 1) providing a source of financing for parks and conservation; 2) providing economic justification for park protection; 3) providing local people with economic alternatives to encroachment into conservation areas; 4) constituency-building to promote conservation; and 5) creating an impetus for private conservation efforts.

Ecotourism: A Financing Source for Conservation

One of the biggest promises of ecotourism is that it offers a potentially important source of financing for conservation. At the most basic level, many conservationists feel that ecotourism should financially contribute to the management of the individual parks visited by tourists. On a larger scale, the argument is that countries with high visitation to particular parks (Galapagos, Rwanda's Volcanoes Park, Komodo National Park) or with high levels of nature-based tourism country-wide (Costa Rica, Kenya) might be able to retain enough revenue to pay for their entire parks system. Although the tourism sector is relatively easy to tax, governments rarely apply tax levels which are sufficient to offset many of the costs of tourism. Governments can use a variety of ways to capture revenue through tourism (see Box 1).

Box 1: Mechanisms to Capture Revenue

User fees: are charged to people who use an area or facility. Examples include admission to parks or monuments, fees charged to divers, special fees for accommodations, trophy and hunting fees, trekking fees, or even special fees for rescue services (in the case of mountaineering).

Concession: fees are charged to individuals or groups licensed to provide services to visitors at selected sites. Common types of services include food, lodging, transportation, guide services, and retail stores.

Sales and Royalties: are a percentage of earnings from activities or products of a site tourists visit. Examples are sales and royalties from books, photographs or postcards, films, or pharmaceutical products made at or from products at the site.

Taxation: of goods and services used by ecotourists are a common way to generate revenue. Hotel, food, and airport taxes are among the most common.

Donations: can be solicited from tourists for special projects or routine maintenance. Examples include restoration of historic buildings, archeological excavation, improved species protection or habitat purchase, or community development activities, such as schools or clinics [adapted from Sherman and Dixon, 1990].

User fees are considered to be equitable, because only the people who use something pay for it. Studies of parks worldwide reveal that in most cases, entrance fees to parks aren't charged or are too low to cover costs [Lindberg, 1991; Lindberg and Enriquez, 1994]. This is largely to keep parks open to all citizens, even the poor. One solution is to introduce different entry fees for foreign and national visitors. In Kenya and Costa Rica, for example, this strategy has been implemented and is extremely successful. Elsewhere, legal and institutional problems make it difficult for two-tiered pricing. In Mexico, a constitutional amendment would be required to have two-tiered fee collection for nationals and foreigners or even for parks to charge entry fees for visitation. One park began collecting donations, which government policy did allow. Park managers got tour companies to add a donation onto the cost of the tour; since virtually all of the tourism to the park was from organized birding tours, this proved to be a good way to capture financial benefits [Touval, 1992]. In other countries, such as Indonesia, park management agencies are simply not authorized to collect such fees.

Virtually every study done of protected area systems recommends that governments should capture revenue to maintain parks and protected areas and to offset the costs of visitor use, which include:

- infrastructure development, such as trails and visitor centers;
- safeguarding sites (guards, fences, signs, boundary markers);
- general maintenance;
- managing or restoring habitats or monuments;
- educational activities, including guides;
- administrative costs for agencies;
- monitoring impacts.

Even changes in user fees and the introduction of two tiered pricing will not necessarily provide all the revenue needed for conservation. For example, a study of potential pricing of ecotourism for two protected areas in Belize, and the contribution to park management costs, is shown in Table 1. In all cases the revenue generated by the proposed fees would cover the extra costs associated with tourism area; ecotourism revenues only cover management

costs in one case [Lindberg and Enriquez, 1994]. The table demonstrates that relatively small increases in fees for tourists, when one considers the overall costs of their trip, can substantially raise revenue for conservation and park management. In many countries, changes in legislation are required to retain revenue for conservation and park management. In 1994, legislation was passed allowing one of Costa Rica's regional conservation areas, which includes five national parks and nine other protected areas, to retain 75% of total revenues from park admissions fees, net sales income and contracts from concessionaires for underwriting the following year's budget. As a result, dependence on outside resources dropped from 60.8% for the overall budget and 26.5% for operating costs to 52.3% and 11.4% respectively by the end of the year [Church et al., 1994c].

Given the low fees charged at most sites, there is evidence that ecotourists who may spend thousands of dollars to visit a site would be willing to pay substantially more. For example, a study of foreign visitors to Madagascar's tropical biological reserves indicated that consumers might be willing to pay from \$276 to \$360 to visit a park which only charges \$11 per visitor [Maille and Mendelsohn, 1993]. Available evidence suggests that more modest price increases have, thus far, rarely led to substantial drops in visitation. Exceptions are nature-based mass tourism sites, where, at least in theory, user fees can be used to "manage" tourism. If one area is overcrowded, raising the price should reduce the number of visitors.

Industry can play an important role in lobbying tourists for or against user fees. While some analysts have argued that industry groups

should be in favor of increased collection of revenues if the revenue goes back to protect or maintain the tourism product [Ashton, 1991], industry most often opposes revenue collection. The limited nature-based tourism experience suggests that industry can exert a powerful influence on governments and promote short-term profits over longer-term management [Dixon and Sherman, 1991]. Industry groups often complain that new taxes, user fees, or price increases will lead to a decline in tourism. For example, when Bonaire Marine Park proposed charging \$10 per user per year, the diving industry was adamantly opposed, running editorials and lobbying against such fees. Yet surveys showed that 92% of divers in the park, mostly non-resident, were willing to pay the \$10 user fee, and 80% thought a fee of \$20 per diver per year was reasonable [Scura and Van't Hof, 1993]. Some industry groups with ties to an area, however, have realized that long-term investment and profitability can only come about if there is sound use.

Hotel taxes are another way of collecting revenue — they apply to everyone, from business visitors to students to ecotourists. The downside to such taxes, however, is that local-level initiatives, such as homestays and community-owned lodges, often have great difficulty in adhering to such government regulations. This can create conflicts between taxing to generate income for community works and decentralizing ecotourism to spread the benefits. Airport taxes provide a ready way to capture benefits, but there is little link between the collection of such taxes and ecotourism. Concession fees and royalties have the potential to provide significant amounts of money at famous or highly visited sites since the concession fees are generally low relative to the overall

Table 1: Effect of Entry Fees Revenue for Park Management
Adapted from Lindberg and Enriquez (1994)

Site	Foreigners Entry Fee	Revenue Generated	Percent of Tourism Costs Covered	Percent of Park Management Covered
Cockscomb	\$1.50	\$3,166	100%	4%
	\$5.00	\$26,004	100%	31%
Hol Chan	\$2.50	\$12,826	100%	38%
	\$5.00	73,926	100%	217%

profit levels. District councils in the Maasai Mara of Kenya receive substantial fees from tourism. Yet in most of the world, few governments have "auctioned" off the licensing of such concessions or priced such things at their fair-market value. It is even more rare to find such fees directly supporting the parks in which they are situated.

Funds from both nature-based tourism and ecotourism are often appropriated back into the central treasury rather than to the agencies which manage parks. A study of 23 protected areas, with ecotourism initiatives, found that most expenditures made by visitors went to central treasury funds or concessionaires [Wells and Brandon, 1992]. A study of tourism to Tangkoko DuaSaudara Nature Reserve in Indonesia [see Annex] shows that the Department of Forestry (the reserve management authority) only receives 2% of ecotourism revenues — and the park only receives a fraction of that total [Kinnaird and T.G. O'Brien, 1996]. A study of Bonaire Marine Park found that economic activities directly associated with the park produced half of Bonaire's income (over \$23 million), yet the park only receives \$150,000 per year for management [Scura and Van't Hof, 1993]. In short, "the money generated by ecotourism does not necessarily go towards maintaining biological diversity or management of parks themselves" [Kinnaird and O'Brien, 1996; Church and Brandon, 1995; Cuello et. al., 1996; Wells, 1993; Wells and Brandon, 1992].

At present, ecotourism is a significant source of funding for conservation on public lands in only a few countries [Wells and Brandon, 1992; Lindberg, 1991]. Even in countries such as Nepal, Rwanda, Kenya, Ecuador and Costa Rica, which do capture substantial revenue, the revenue collected is well below what should, or could, be generated. One study found that a private reserve, Monteverde Cloud Forest Reserve [see Annex] generates more income from tourism than is generated by all Costa Rican national parks [Church et. al. 1994c].

Economic Justification for Conservation

Tourism can provide a strong economic rationale to preserve areas rather than converting them to alternative uses such as crop or pasture land. Economic valuation is increasingly being used to

demonstrate the value of the wildlife and wildlands given what tourists are willing to pay to see them. One study in Costa Rica showed that the value of a tropical rain forest reserve was at least equal to or twice as high if left natural than the straight purchase price for the land alone. Similarly, each free-flying macaw in Peru was estimated to generate between \$750 and \$4,700 annually in tourist revenues [Munn, 1991:47]. As economic valuation methods improve and are increasingly used to reflect the costs and benefits of alternative forms of land use, it is likely that tourism will provide one important component of the benefits — provided that reasonable revenue is collected at these sites.

Fair market pricing of wildland resources can be one way of justifying protected areas to governments. For example, tourism in Zimbabwe relies heavily on the parks and associated wildlife populations, giving these resources a tangible value. The economic justification argument thus provides an incentive to governments to increase fees, both to generate more revenue and to insure that the wildlands and wildlife are seen as a valuable and competitive land use [Child and Heath, 1990].

Providing Local People with Economic Alternatives

Protected areas and surrounding lands are often among the most remote and agriculturally marginal lands in many countries. Their remoteness contributed to their protection, since they were inaccessible and viewed as economically unproductive. Both protected areas and the lands around them face increasing degradation as a result of large-scale development projects, expanding agricultural frontiers, illegal hunting and logging, fuelwood collection and uncontrolled burning. Human use of these once remote areas is increasing as a result of increased population growth in traditional communities, migration, and settlement, often the result of problems and policies elsewhere in the country.

There has been a tremendous emphasis in the past five years on linking the conservation of biological diversity in parks and protected areas (PAs) with local social and economic development. Collectively, these approaches,

known as Integrated Conservation and Development Projects (ICDPs), include biosphere reserves, multiple-use areas, buffer-zones, and large-scale planning units such as regional conservation areas [Wells and Brandon, 1992]. ICDPs aim to achieve PA conservation by promoting socio-economic development and providing local people with alternative income sources which do not threaten to deplete the flora and fauna of the PA. The range of approaches under the rubric of ICDPs is based on concepts of sustainable use and sustainable development in the rural context. They imply types of land-use alternatives, which, in combination with a range of social, technical and economic options, will lead to biodiversity conservation.

A study of 23 protected areas with projects designed to generate local economic development found that while many projects promoted ecotourism, few generated substantial benefits for either parks or local people [Wells and Brandon, 1992]. Even at highly successful parks, few direct economic benefits went to local communities. For example, while tourists generate about \$5 million annually at Khao Yai National Park in Thailand, little benefits surrounding communities. Ecotourism revenues in Rwanda support the park system and the central government, but few economic alternatives exist for local populations. In Tangkoko DuaSaudara in Indonesia, benefit distribution is: 47% to the major tour company; 44% to hotels; and only 7% to guides, of which the head reserve guard gets 20%. Guides and food are usually brought from the provincial capital, so few benefits are retained at the village level [Kinnaird and O'Brien, 1996:70]. Benefits which are captured by villagers through homestays, boat rental, or guide services are captured by a small group within villages [K. MacKinnon, pers. com]. Notable exceptions, where benefits are more widely distributed, are initiatives in Zimbabwe and Zambia, and the Annapurna Conservation Area in Nepal [Wells and Brandon, 1992].

The most significant benefit for most rural communities from ecotourism is the employment generated in a range of jobs, mostly as guides or guards or in small lodges in a domestic capacity. The issue as to whether this constitutes sufficient incentive to help safe-

guard protected areas can only be answered on a site specific basis. A study of 63 private nature reserves in Latin America and Africa showed they employed 1,289 people year-round; an average of about 20 jobs per reserve year-round. An additional 336 people, or 5 people per lodge were added during the peak season [Alderman, 1990]. In contrast, in the Mount Everest region of Nepal, two-thirds of the Sherpa families receive direct income from nature-based tourism [Wells, 1993].

The type of employment generated is directly tied to the way in which tourism is managed and the level of local control. If local people own teashops or rent rooms in their homes to tourists, there may be many small employment benefits generated. In most places, local-level jobs are guards, guides, maids, porters, cooks, drivers or porters. If local people lack the requisite skills, outside companies are usually unwilling to make the investment of time and money to train them. Local people who desire expanded opportunities will rarely find them linked to ecotourism since the variety of jobs created is low. Tourism may also provide support to traditional jobs such as craft production. There are numerous examples where craft cooperatives or stores have been established to cater to tourists. The scale of tourism is an important factor in differentiating types and levels of employment.

Whether ecotourism is powerful enough to change people's habits and reduce threats to protected areas depends on complex factors. Benefits must be appropriately targeted and designed so that they are in fact incentives. For ecotourism to promote conservation, local people must clearly benefit and understand that the benefits they receive are linked to the protected area. If benefits do not stay in local areas or are narrowly distributed, they may not provide sufficient economic incentive to reduce livelihood dependence on the protected area [Brandon and Wells, 1992]. For example, it may be better to convert many resource-dependent people, such as local hunters, into part-time guides and guards, rather than hiring one or two people full-time. It should not be assumed that ecotourism on its own will lead to changes in dependence on protected area resources. So far, the evidence indicates that when changes have taken place, ecotourism has been but one

component of the change. Other important elements have been improved education, improved access to information, improvements in park management, and increased economic opportunities other than just ecotourism [see Wells and Brandon, 1992]. In such cases, ecotourism has been part of a larger development scheme, structured to address a variety of local concerns simultaneously. In most cases ecotourism has provided only small employment benefits that have not substantially reduced dependence on wildlands or wildlife resources. Ecotourism should be seen as only one of many strategies for providing local people with economic alternatives [Wells and Brandon, 1992; West and Brechin, 1991; Kiss, 1990; Place, 1991].

Constituency Building

One of the often overlooked ways in which ecotourism supports conservation is that ecotourists, upon returning home, act as advocates for the areas they have visited. The impact may be most significant with domestic ecotourists. This advocacy can help conservation in many ways. First, ecotourists are likely to give more generously to either conservation organizations working to preserve the site they visited, or to conservation more broadly. Second, they often are willing to donate their time and energy to lobby for or against policies or activities which threaten the areas they have visited. Many join or start organizations which directly support the area they have visited by giving supplies or materials, arranging visits by scientists, starting lobbying or publicity efforts, and looking for financial support. Finally, they act as "conservation ambassadors" and convince friends and family to take similar trips and increase their support to conservation. Both internationally and for domestic populations, the importance of a constituency for conservation activities cannot be underestimated.

Impetus for Private Conservation Efforts

The potential for income generation, the compatibility of conservation and some private sector activities, and a desire to preserve natural habitats, has led to the establishment of numer-

ous private nature reserves worldwide. The ecological importance of such reserves is that they supplement public protected areas and may effectively extend the range of some species. Private conservation initiatives include the establishment of special areas by non-profit organizations and by private sector profit-oriented groups. Such private conservation areas are more common in Africa, where there are long-standing examples of ranchers using part of their land for livestock and other areas for wildlife and sport-hunting. In recent years there has been an emergence of privately owned areas throughout Latin America: most of these are special developments designed to attract ecotourists. These private reserves, if successful, could make a substantial contribution to localized conservation efforts in a number of countries [Alderman, 1990]. For example, Hato Pinero in Venezuela is a 170,000 hectare privately run, working cattle ranch, which protects its wildlife from hunting and doubles as an ecotourism operation. The region has a great diversity of large and readily-observed birds and mammals. In the dry season from December to April when pools are drying, birds and caiman concentrate at the remaining sources of water, offering easy and spectacular wildlife viewing opportunities. The success of Hato Pinero has led to the opening of a new ranch called China Arriba, just 4 hours southwest of Caracas. The ranch covers 2,471 acres and is situated on the Guarico and Orituco Rivers. The success of private ecotourism ventures are dependent on general environmental quality in the region.

Ecotourism and Park Management

There are inherent dangers in promoting tourism in protected areas. Decision-makers may be more interested in the economic gain from the park and not its conservation benefits. If the tourism industry turns sour in that area, there may be the tendency to look for more profitable land uses [MacKinnon et al, 1986]. On the other hand, if the area is in high demand, decision-makers may want to promote inappropriate development of large hotels and highways that would be detrimental to the resources but increase short-term revenue. Park managers must always keep the main purpose of the park in mind, as well as the differences between ecotourism and regular tourism,

especially when the park has been established to protect vulnerable and valuable natural resources. The park manager has to weigh the conservation impacts against the potential economic benefits from ecotourism.

When ecotourism is regarded as the primary mechanism to supply a park or surrounding area with economic benefits, the park must be strictly managed and protective measures must be in place to prevent degradation by tourists, even those tourists visiting with the "greenest" intent. "Ecotourism cannot be viewed as a benign, non-consumptive use of natural resources in the tropics [Jacobson and Lopez, 1994: 415]." Many of the existing protected areas with the highest biodiversity are fragile and cannot endure heavy human disturbance. The most remote sites may be among the most important for biodiversity conservation because they are the least degraded. However, this also makes them attractive to ecotourists, who want to travel to places which are biologically important and more "exotic" because of their remoteness. Many of these areas lack infrastructure and park managers have few plans or resources to cope with an increasing influx of tourists. This section explores some of the issues and options in managing ecotourism in a manner consistent with biodiversity conservation.

Management Objectives

Effective park management can only be achieved if there are clear objectives — managing a park for recreation allows activities that might be inconsistent with management for nature conservation [MacKinnon et. al. 1986]. If the primary objective of a protected area is biodiversity conservation, any tourism to some areas of the park may be in conflict with biodiversity management objectives. Within park systems, countries may want to balance their overall portfolio of visitation; for example, high levels of tourism could be encouraged to some parks, ecotourism to others, and some parks which are sensitive or too remote might be closed to all tourism. Within parks, zoning is essential in defining how visitation will take place. At the national level, decisions should be made about allocating tourism among parks and what management systems will be necessary at protected area sites.

Zoning

Clear objectives are needed both for the park itself and as the basis for one of the most important elements of park management — zoning. Zoning combines a variety of different protection and use criteria with ecological data to determine the most appropriate levels of use for different zones within the park. In most cases, the zoning process is internal to the PA and the park management authority has complete control over its implementation. One of the most critical elements in the management planning process is to determine appropriate types of uses consistent with park objectives and where those uses will be permitted. In general, tourism should be organized in a manner that minimizes habitat fragmentation and disturbance and intrusion on wildlife, especially critical sites such as breeding grounds. While this can be difficult, zoning can be an effective management tool. For example, a study of tourism effects on the 5,700 to 23,000 turtles that nest annually on the beaches in Tortuguero, Costa Rica, found there were impacts on nesting behavior. Fifty % more nesting behavior occurred on weekday nights when there were fewer tourists, than on weekend nights when there were high levels of tourism. This may have been due to the use of flash cameras and flashlights, and people touching turtles. In response, the Costa Rican government declared a tourism zone along the beach prohibiting the use of lights and requiring the use of guides [Place, 1991].

Even low levels of visitation, and the infrastructure to support such visitation, such as roads and trails, can create habitat islands within parks and impede the movements of animals. This can threaten the viability of some species [Whitmore and Sayer, 1992: 83]. In zoning for tourism, there should be an emphasis on maintaining core areas which are "off-limits" for visitation and on minimizing the impact of infrastructure on wildlife. For example, roads should not be sited so that animals will need to cross them to get to waterholes.

Suitability of Site for Tourism

The expansion of ecotourism will depend on characteristics of the destinations and the demographics of travelers themselves. For

example, most African safaris provide a near guarantee of seeing a variety of large mammals, taking good photographs, and time for relaxing. Safari tourists can be transported right to the wildlife and taken back to their lodges or luxury tent camps midday for a jump in the pool when it is too hot for game viewing. It is relatively easy for such tourists to know what kind of experience they will have in advance of their trip. Elsewhere, such as in tropical rainforests, it is harder for the ecotourist to pre-judge the quality of the experience. Without an excellent naturalist, tourists may feel they have seen little. Under the tree canopy, it is often dark and damp with lots of mosquitoes. Weather and wildlife viewing are unpredictable and often disappointing to ecotourists [see O'Rourke, 1993]. Of tourists who did travel to lodges in one region in Peru, 80% to 95% were unsatisfied with wildlife viewing: "even the finest regions of the Amazon offer few opportunities for tourists to see large concentrations of wildlife [Munn, 1991: 62]". Long-walks through dense jungle are often required to see any wildlife.

Acceptable Impacts and Change

Tourism demand for particular species or parts of the park should be reviewed within the management planning process. The probable impacts of tourism on these and other park resources can be identified and measures developed to determine appropriate levels of tourism [Harroun and Boo, 1995]. The acceptable and sustainable level of tourism will depend on the biological features of the zone, the fragility of the species and ecosystems in the park and the current and future disturbances and threats, as well as the human and economic resources available to run the park and provide services and facilities for tourists. In

some zones, such as breeding areas or fragile habitats where any human intrusion will affect the biological integrity, all tourism may be regarded as unacceptable. Determining the environmental carrying capacity depends on a variety of value judgements about acceptable levels of alteration or degradation in areas where visitor use is permitted. Such decisions and value judgements should be an explicit part of the management planning process.

Once acceptable levels of ecotourism are defined, methods to control visitation at those levels need to be implemented. This includes the ability to count visitors, keep visitation statistics, and be able to stop visitors entering the park when human carrying capacity is reached. To determine acceptable visitation levels, information on seasonality of tourism interest, ratio of foreign to national visitors and their income levels, activities of tourism in the park including the type of tourist attracted, type of visitor experience desired by the tourist and the associated infrastructure expected, and duration of stay is needed, in addition to strong baseline data on ecosystem characteristics. Measures of acceptable impact and change, as well as human carrying capacity, should be integrated into park zoning and management plans.

Facilities and Services

The facilities and services that need to be present in a park for ecotourists depends on the zoning, combined with an analysis of the type of tourists the park wants to attract, the proximity of alternate facilities, acceptable levels of impact, and the revenue the park wants to generate. A combination of factors may make it preferable to locate most services, especially

Box 2: Negative Impacts of Visitation

Negative impacts of visitor use that must be considered when setting visitor carrying capacity include:

- human overcrowding resulting in environmental stress;
- animals showing changes in behavior;
- erosion of trails or beaches;
- overdevelopment with unsightly structures;
- increased pollution, noise, litter, or resource extraction;
- harm of natural and culturally important features of the area [MacKinnon et al, 1986: 87]

accommodations outside, rather than inside parks. Different types of ecotourists (e.g. hard to soft) require different facilities. By supplying certain amenities, parks can attract different types of tourists that seek out specific facilities during their stay. Careful consideration is required in deciding who to attract and what infrastructure to provide. The importance of strong ecological knowledge as the basis for siting infrastructure and facilities cannot be overstated. For instance, proposed ecotourism development to two biosphere reserves in the Yucatan, which are protected barrier beaches, required buildings, roads, dikes, pipes and sewerage systems. The construction of the first stage of this development, a bridge, trapped storm surges during a hurricane, forcing the water into a lagoon and flooding flamingo fledglings, which otherwise would have been safe despite the hurricane [Savage, 1993]. The development of even limited infrastructure in fragile areas can have unanticipated effects – road construction or changes in watercourses can be devastating.

Visitation and Conservation Education

Much of the orientation of a conservation awareness and education program will be determined by who the visitors are and what they are coming to see. Tourists are fickle and want to see wildlife. Wildlife, especially the mega-fauna of Africa and southern Asia, have very high tourist appeal, but if their sighting becomes unreliable due to shyness of the animals, low population numbers, or seasonal weather, visitors won't be as eager to come. Good environmental education and guiding includes the ability to make other park resources attractive and educate visitors on other unique attractions in the ecosystem, such as indigenous species of plants, or mutualistic interactions between species.

Educating visitors about the functions of a park, what it protects, why it exists, what the restrictions are, its boundaries, and the ecological services are key elements of an environmental education plan. There are three groups which should be considered when developing such a plan: international visitors, national residents, and local residents, including children. A strong informational program describing park regulations and acceptable behaviors, coupled

with enhanced guide and guard services, are key elements of ecotourism development within parks. The impact of visitors can be restricted by limiting them to certain pathways, roads, or boats. Restrictions can range from not picking any plants or feeding the animals, no camping or camping in only designated areas, only walking on paths and trails, to pollution control. Clear procedures for groups or individuals who do not comply should be established as part of the management planning process. Strong training of guards and guides is a critical element of tourism development. Finally, there is a need to prepare for emergencies – what to do if tourists are injured by wildlife or lost. Careful monitoring of visitor impact, even with excellent education plans, is necessary. At Royal Chitwan National Park in Nepal, despite well organized education programs, "disturbances to the ecology have become obvious features" [Sowers et. al. 1994a].

Conclusion

The appropriate scale of tourism to an area is a function of the size of the area, the resident population and the sensitivity of ecosystems. Scale is one of the most important factors in managing ecotourism, for it is one of the key factors that separates ecotourism from mass tourism. There is no doubt that ecotourism in some contexts does avoid many of the problems of mass tourism – solely because it operates at a reduced scale. If many ecotourists travel to an area or country, ecotourism begins to have the same problems as mass tourism.

Where nature tourism is significant throughout an entire country, it is necessary to look at the costs and benefits and their distribution country wide. In some cases, nature-based tourism may be channeled to one section of a national park, or to one part of a communally owned area. This may be an appropriate management strategy which concentrates the impacts, especially if cultures or ecosystems are highly sensitive to outsiders. In other places, it may be better to spread ecotourists thinly over a huge area and disperse negative impacts and benefits more widely. Where ecotourism is limited in scale, such as a particular park, social, economic, and ecological assessments of ecotourism can be more limited in scope. In many cases, it will be desirable to assist com-

munities in developing the services for ecotourism outside parks to reduce pressure on parks and to ensure that benefits go into communities. What is appropriate and acceptable will depend on the type and level of services appropriate within the park, park management objectives, the management options which exist, and the skills and interest of communities living nearby. Clear answers on "what works best" are impossible to provide since they change depending on the context.

Sites with the greatest potential for ecotourism are those with:

- an interesting wildlife component that can be easily viewed;
- reasonably easy access, good communication, and well-organized management;
- an interesting cultural or historical attractions;
- economic competitiveness if the site doesn't have some highly unique feature, such as mountain gorillas [Bacon, 1987; Ceballos-Lascurain, 1991].

Great potential does not always translate into great implementation nor to successful conservation. Ecotourism has the potential to make a

contribution to conservation if it is appropriately managed and regulated; otherwise, what is true for Tangkoko DuaSaudara Nature Reserve in Indonesia, where "ecotourists control Tangkoko, probably to the detriment of wildlife," will often be the case [Kinnaird and O'Brien, 1996:72]. Substantial investments need to be made to strengthen the management capacity of protected area authorities to design and implement sustainable ecotourism and to ensure that tourism benefits the park and does not degrade its biological values. For ecotourism benefits to provide financial benefits to conservation, appropriate user fees and pricing policies which reflect the real costs of services should be introduced with revenues reinvested into protected areas. If ecotourism is to provide livelihood alternatives for local communities, greater and more equitable generation of benefits will have to be established [Wells and Brandon, 1992]. Such activities should explicitly link generation of local economic benefits to protected area maintenance.

4 Cultural Issues and Ecotourism

Culture is an organized system of meaning or symbols in which social interaction takes place; the framework of beliefs, symbols, and values in terms of which individuals define their world, express their feelings, and make their judgments...the fabric of meaning in terms of which human beings interpret their experience and guide their action [Geertz, in Greenwood, 1989]. Many components make up a culture. The four key areas most commonly influenced by tourism are: commodification, culture and social structure, cultural knowledge and cultural patrimony.

Interpreting the effect of tourism on culture depends on the researcher's perspective on change and values, and the extent to which cultural change is thought to be inevitable. Issues concerning cultural change can be framed between two extremes: "To prohibit change is nonsensical, to ratify all change is immoral [Greenwood, 1989]." Within the tourism literature, much of the debate centers around how much change is "good" for local people and insulated cultures. Different cultures are affected by tourism in varying ways and to different degrees. What devastates one culture may have no effect at all on another. Therefore, the effects of tourism are not common to all groups and do not have a consistent impact across cultures. Ecotourism is portrayed as a form of tourism which has less damaging effects on local people than mass tourism. This appears to be based on three assumptions: 1) the scale of tourism is less, therefore the impact is less; 2) the type of tourists are different, so the interactions are less disruptive; and 3) the range of opportunities for local involvement and benefits is greater. In fact, there have been few in literature suggests that cultural tourism differs little from other forms of tourism.

How Tourism Has Affected-Cultures and Cultural Patrimony

There are four ways in which tourism can affect cultures and their patrimony. Perhaps the most significant is known as "commodification" of culture. People and their symbols are treated as commodities which can be bought, changed, or sold. The other three major effects include changes in:

- group social structure; the way in which their lives are ordered and patterned;
- cultural knowledge or the body of information possessed by groups; and
- the way in which cultural property is used and viewed.

The premise of culturally oriented ecotourism is that tour companies receive money from one group of people to take them to see another group. In most cases, tourists are paying to watch and photograph native peoples as they go about their daily lives. Native peoples often have no say over whether they want the tourists there or not, and they derive few benefits from their "service." The tour operators and tourists treat them as commodities, because that is how the relationship is structured.

One of the interesting paradoxes of external control that operators and tourists exert is that many cultures respond by "controlling" how they are viewed, both for their own benefit and in turn to "control" tourists. Yet over time, this control that cultures exert begins to redefine the culture and its practices. The culture, in what is known as staged authenticity, begins

Box 3: Key Cultural Elements Influenced by Tourism

Cultural knowledge. Cultural knowledge is information that contains the culture's rules of interaction – information about the political, economic, social, and ecological environment in which a group lives as well as the group's values and beliefs. It includes the information possessed by groups about their environment, and how to use it (such as the diversity of plants for medicinal and agricultural purposes).

Cultural patrimony originally referred to an estate or property inherited from one's father or ancestor or one held by ancient right, such as church property. However cultural patrimony broadened in definition to include the inheritance of ideas, symbols, and traditions that make up a culture's identity.

Cultural property¹ "denotes sites of artifacts of archaeological, paleontological, historic, religious and unique natural value; it encompasses remains left by previous human inhabitants as well as unique natural environmental features (the United Nations Definition in Goodland and Webb, 1987)." Cultural property embraces sites that have archaeological, historical, religious, and natural heritage significance (Goodland and Webb, 1987). Cultural sites may also provide broader lessons to other societies and opportunities for generating income through tourism.

acting in ways that the tourists think is authentic. In many cases, staged authenticity has been encouraged by tour operators, who have to create adventure while at the same time assuring safety, comfort, and reliability of the cultural experience for their clients. It is easier for operators if they know what dances groups will perform, when, what native groups will do, how exotic it will look, how long rituals take, and if groups can be photographed during rituals. Without the collaboration of indigenous groups, operators will have greater difficulty controlling the tourism product. However, after a while the actions which cultures "stage" for tourists simply become an act disengaged from cultural meaning [MacCannell].

The commodification of culture, often through tourism, is usually viewed as one of the destructive influences on local groups. Yet there are also numerous examples where it is precisely the interest in local arts, music, or symbols, or language that are instrumental in reviving them. For example, the interest tourists to Capiróna (see Annex) have shown in traditional knowledge and crafts has helped to validate and revive them [Colvin, 1994:3].

Change in Social Structure

Cultures have constantly gone through changes, and they are constantly adapting to new circumstances. Tourism often brings such rapid changes that instead of adapting to the new situation, community cohesion breaks

down, leading to fracturing of local relationships. Local youths, in particular, often see the way outsiders act as superior or easier to how they are expected to act. They see outsiders as having fewer rules than their traditional culture may impose. What is evident is a wealthy, carefree life, unconstrained by daily necessities rather than the social obligations, problems, stress, and environmental degradation that the tourist has left behind and from which they are trying to escape. Traditional patterns of local organization breakdown, people begin to emigrate, and those who remain shed traditional practices and increasingly cater to tourists. Money generated through sales of crafts or employment can dramatically change the family or community structure. For example, a five year old may make more money selling bracelets in a day than his/her father can make in working in the fields in a month. It is particularly difficult for elders to justify to youth the value of maintaining traditional values and practices.

Cultural Knowledge

Thousands of years of indigenous culture can become extinct in one or two generations. In most cases, this results from: 1) the creation of new employment opportunities, so young people don't learn or need to learn traditional skills; 2) changes in social structure and new patterns of social interaction (e.g. women working outside their homes, loss of traditions

such as oral storytelling); and 3) a disinterest in cultural traditions among youth. Ecotourism potentially offers one form of employment which is less disruptive and may reinforce traditional skills and practices. Critics of tourism charge that youth end up spending more time with tourists or emulating tourist behavior than their own culture. Tourism introduces modern technologies, such as radios and television, which reduce reliance on oral traditions.

One important link between biodiversity conservation and culture which has a tangible market value in some cases is the specific ecological information, or intellectual property, possessed by indigenous groups and knowledge about human interactions with nature. For example, knowledge learned through the use of plants through history, has saved literally millions of lives (quinine for malaria, curare for surgery, taxol for cancer) and provided knowledge of desirable properties for different crop strains. Diminished knowledge is one aspect of cultural change. Groups such as the Kuna Indians in Panama have worked with foreign anthropologists to relearn traditional methods of caring for the land [Chapin, 1990]. Ethnobotanical studies, searching for and working with traditional groups to identify these properties, has become a significant element in conservation and one small branch of the ecotourism market.

Use of Cultural Property

Cultural sites are irreplaceable resources. Once destroyed, the historical, cultural, ascetic, and educational value are gone forever. In many parts of the world, tourism has served as one justification and impetus for the preservation of cultural sites. Tourism has often been an important force behind laws protecting sites and antiquities, and has provided economic justification for restoration of many sites [UNESCO, 1976]. Many protected areas have dual functions of biodiversity conservation and protection of cultural property. Protection of historical monuments within protected areas, such as Mayan ruins at Tikal, Guatemala is fairly straightforward, at least in terms of how and when conservation and protection are needed. But using ecotourism to generate the

revenue for such projects and managing the flow of tourists is more difficult. Preservation of cultural property is even more problematic when it involves special natural sites, such as sacred forests in Nepal or rock paintings or sacred sites in Australia. In some cases, even speaking directly with local people about these sites, or trying to define them, may be sacrilegious. For example, at Uluru (Ayers rock) in Australia, the Anagu people have expressed a disdain for people walking or climbing on their sacred rock. However, because of the revenue generated by tourism the Anagu have made allowances for hundreds of tourists to climb Uluru daily [J. Willis, 1992; Altman, 1989]. Respect and care of sacred sites is often sacrificed by individuals for profit, even though they may be "owned" by the community. For example, wood from sacred forests in Nepal is often stolen to meet the increased demand for cooking or hot water showers for trekking tourists [Gurung, 1989].

Characteristics that Influence the Impact of Tourism on a Culture

There are at least six factors that influence how a culture reacts to tourism:

1. Community cohesion and structure;
2. Ability to separate the sacred from the profane;
3. Rapidity of tourism development;
4. Previous experience with "outside" groups;
5. Balance with environment;
6. Distribution of tourism impacts and benefits.

Community Cohesion and Structure

The effect tourism has on a culture in part depends on the degree of community cohesiveness and the strength and elasticity of traditional practices. The impact of new technologies and customs can have markedly different impacts on different cultures, and even different communities within a culture. If a culture has had diverse experiences coping with change, it is more likely to be flexible to the influences of tourism. Some cultures have shown a remarkable ability to incorporate the external influences brought by tourism and adapt them into practices which are beneficial for their society, such as the Sherpas of Nepal. Nepalese sherpas

have been involved in tourism and the demand for wage labor for 40 years. They have found new ways to "reconstitute productive relations in their new economy. The Sherpa logic that informs and shapes economic endeavors is a cultural logic revolving around tendencies toward both independence and interdependence into which new tourism opportunities can fit [Adams, 1992:534]."

Separation Between the Sacred and the Profane

Not all cultures can easily separate the sacred from the profane, since there is often a continuum between the two. Two factors help differentiate how cultures act their attitude about questioning their own practices, and their disposition to question the practices of others. Some cultures encourage questioning about their own practices, while others encourage unquestioning adherence to local norms. When a culture is not able to discuss the importance and role of certain practices, these practices often become events for tourists, and, over time, lose meaning for the people themselves [Maurer and Zeigler, 1988:75]. A culture's ability to assimilate outside ideas and interpret them through their own cultural structures helps it adapt to changes brought through tourism.

Rapidity of Tourism Development

Ecotourism contrasts with mass tourism in that it is aimed at bringing in fewer people at levels that do not cause cultural disruption. Yet even several hundred to one thousand tourists a year — a few every day — will have a marked effect over relatively few years on a rural population. Communities may have little opportunity to adapt their practices so as to incorporate external elements, and it may be difficult to identify when "too much" disruption has taken place. There are few examples of mechanisms to monitor cultural change and to regulate tourism accordingly.

Previous Experience with "Outside" Groups

While most cultures will have been in contact with external groups, their experience in dealing with these groups, either positively or

negatively, can have huge importance to how they react to tourism. In general, communities that have been exposed to a higher number of groups slowly over time can more easily incorporate new ideas and practices into their lives with fewer disruptions. Similarly, groups which have encountered cultures that are very different than their own are likely to be less overwhelmed than groups which have only been in contact with similar cultures.

Balance with Environment

Traditional management systems which regulate resource use are highly susceptible to external influences [Redford, 1996; Brandon, 1996]. Many traditional resource management systems work because they are based on low population densities either intensively extracting from a small area, and allowing that area to regenerate, or extensive use of resources collected over a wide area. These systems are appropriate within their own cultural and ecological context but can rapidly erode if local conditions change, particularly if: 1) there is a substantial increase in the local population; 2) a few commodities increase in value and become more heavily exploited; or 3) the area available for exploitation is substantially reduced. Creation of protected areas is one example of the third reason. Ecotourism has the potential to partially offset economic losses born by local people. Yet groups already coping with stress from environmental dislocation may have difficulty adapting to the rapid changes brought by tourism.

Distribution of Tourism Impacts

The distribution of costs and benefits from tourism across communities is one of the most important issues in devising sustainable ecotourism strategies. In the short run, even providing a limited number of jobs in areas where there are few other opportunities may provide substantial benefits with minimal costs. But problems arise when the impacts differentially affect one segment of a community [Maurer and Zeigler, 1988]. Similarly, problems can arise when the benefits are captured by one group or class within a community. Excellent studies of cultural tourism in Ladakh, India [Michaud, 1991] and San Cristobal, Mexico

[van der Berghe, 1992] demonstrate that different ethnic groups differentially receive the benefits from tourism. Without in-depth knowledge of a culture, it is difficult to say whether the culture would better withstand a broad distribution of impacts, or some alternative approach that would affect a more restricted sub-group.

Conclusion

In general, most of the intended benefits of tourism are not realized by indigenous cultures. Tourism has a positive influence in cases where the interest expressed by tourists in art, music, or crafts has stimulated local interest and pride and led to a revival of practices, especially

among youth. In addition, tourism can generate benefits to local communities such as employment. However, whether or not jobs and other benefits have a positive long-term impact on "culture", will depend on the resiliency of the local community and perhaps more importantly, the ability of tourism operators and the communities themselves to recognize and organize in ways which minimize the significant cultural impacts. Ecotourism may have greater impacts on culture than mass tourism since ecotourists are rural peoples. Therefore, particular attention should be given to social impact assessment in the development of ecotourism projects.

¹ The terms cultural patrimony and cultural property are often used interchangeably, although this report uses the term cultural property to refer to specific sites.

5 Development Issues

Many countries have viewed tourism as an important component of their overall development strategy. There are four significant reasons why countries pursue tourism: generation of foreign exchange, employment, economic diversification, and regional growth [Goldfarb,1989: 13]. Non-economic national interests, such as diplomacy, international stature, and peace are also attributed to tourism [D'Amore,1990].

Tourism, if well managed, can contribute positively to development. For most countries, problems arise from the fact that the negative economic, environmental, and social effects of tourism build cumulatively and lag behind initial positive economic impacts. Conflict arises when political imperatives stress gains in the present and governments are unable or unwilling to plan and manage tourism. This split in timeframe is compounded by a split along national/local lines: immediate economic benefits can be collected by the national government while increasingly heavy costs are borne by the local populations [Goldfarb,1989]. Ecotourism is not exempt from this since many of the most substantial costs of travel to a site go to airlines, urban hotels, car rental agencies and the like.

Foreign Exchange Generation and National Revenues

The prospect of foreign exchange earnings is the single biggest reason for developing countries' interest in tourism, and tourism's contribution can rank quite high. Unlike other export industries, tourism is an industry which is less subject to protectionist barriers (with the

exception of visas), and one in which the consumer pays the transportation costs (the tourist comes to the country to collect the goods, as it were). Tourism has proved to be a source of foreign exchange that is more dynamic than major commodity exports [English,1986]. Although recessions in developed countries can lead to a decrease in tourism to developing countries, several studies suggest that tourism is less volatile than traditional primary commodity exports [Pye and Lin,1983]. Even though tourism represents a major component of the world's economy, few countries have precise figures on tourism revenues [Wyer et. al.,1988: 22]. Both the International Monetary Fund (IMF) and the World Tourism Organization (WTO) have recommended that tourism receipts and expenditures be included in a country's national accounts.²

Critics of tourism point out that if "economic leakages," or the money that flows out of the country in order to support tourism are taken into account, many countries would have vastly lower earnings than assumed. Leakages result from the continued need for imported skills, technologies and commodities to serve the tourism sector, including foreign goods and services, increased oil imports for tourists transportation, repatriation of profits from hotels, restaurants, and car rental agencies owned by foreign companies; imports of consumer goods and advertising and marketing efforts abroad.

The level of leakages is in most cases quite high. The World Bank estimates from the 1970s indicated that 55% of tourist spending in developing countries leaks back to developed

countries. Other studies suggest that leakages of 80% - 90% may be more common for countries lacking a substantial share of national ownership of tourism services, such as airlines, hotels, and transportation companies [Mathieson and Wall, 1982]. More recent studies suggest that only ten percent of tourism spending remains in Zimbabwe [Lindberg, 1991: 24] and 10% to 20% of tourist spending is retained in Jamaica [Church et al., 1994a].

Local-Level Leakages. Leakages from rural areas visited by ecotourists may be especially high: estimates for leakages from the Annapurna region of Nepal range from 90% to 94%. [Wells, 1992; Gurung, 1992: 38] and over two-thirds of expenditures by tourists to Zimbabwe's protected areas leaves the country [Lindberg, 1991: 24]. A recent study of Bonaire Marine Park in the Netherlands Antilles found that "the revenues generated by park related activities tend to pass through the local economy with only a small portion, perhaps as little as 20% effectively remaining there [Scura and Van't Hof, 1993]. Recent studies of Siberut, Indonesia, indicate that only 16% of spending remains on the island, and local people only retain 9% of what is spent (see Annex).

Economies in the remote regions which ecotourists visit are often too undeveloped to provide the required supporting goods and services. Those promoting ecotourism often import expertise and products from urban areas and foreign countries to remote ecotourism sites rather than developing expertise or products, including lodging and food supplies locally. Tourist dollars are often credited with having huge positive effects on developing country economies by virtue of the so-called "multiplier" effect—a phenomenon in which an initial injection of tourist dollars prompts additional rounds of spending by citizens on local goods and services. Every tourism dollar spent creates "X" dollars worth of impacts, and every direct tourism job creates "Y" number of indirect jobs. Rural areas may have both higher economic leakages and lower "multipliers" than urban areas. In most rural situations, the lack of rural enterprises translates into reduced ways for currency to stimulate local economies. Multiplier effects in the ecotourism context are likely to be very limited.

Employment

Tourism-related employment is grouped into three categories: direct employment (hotels, restaurants, clubs, taxis, souvenirs); indirect employment which results from inputs to the tourism industry, such as employment as a bus mechanic for a tour company; and induced employment, which is a variation on the idea of "multiplier effect" from tourism expenditures. Induced employment is generated solely because residents in the area have more to spend on new things, such as appliance purchases. Tourist expenditures generate not only direct flows of money through the purchase of goods and services, but indirect flows, when the recipients of the primary flow of money respond it [Healy, 1988: 2].

There is an erroneous belief that tourism leads to high levels of job creation, due largely to early studies claiming that, due to the multiplier effect, tourism created more jobs per dollar of investment than manufacturing. A 1969 study of Caribbean tourism estimated that every job created in tourism resulted in 2.3 more jobs in supporting industries while multiplier figures for Kenya and Tunisia were reported to be 4 and 6 [Anon., 1989: 19, 22]. Subsequent research indicated that the real job multiplier for the Caribbean was probably well below one. While the concept of multipliers has validity, they are difficult to calculate with any accuracy [Goldfarb, 1989: 17-18]. The most critical issues in considering employment are: who is employed, in what capacity, at what wages, and for which months. How well does ecotourism "fit" with overall labor patterns in the area? Rural households try and maximize a total level of earnings; small bits of income may make a crucial difference in their overall level of well-being. Similarly, if ecotourism related employment does not conflict with important seasonal patterns, such as harvest time, off-peak employment can be a valuable addition to households.

While it is difficult to generalize about tourism's contribution to national employment, it is even more difficult, at the national level, to disentangle the effects of mass tourism, nature based tourism and ecotourism. However, it is clear that most of the employment generated by tourism is for workers with low skills. One

significant benefit of tourism, however, is that it provides these low-skilled workers with higher wages than they would receive in other occupations.

From a development perspective, the cost of creating jobs in tourism must be compared to the costs associated with investment leading to job creation in other sectors. Although it is often assumed that high levels of capital are not required, this is incorrect if the emphasis is hotel-based. A handful of studies focusing on costs per hotel job found the hotel sector to be more capital-intensive than other modern industries. No matter how the industry is portrayed, tourism does not distinguish itself as a creator of employment, and it "is less labor-intensive than commonly assumed" [English, 1986].

Many countries emphasizing nature-based tourism have a mix of tourism types, from modern fancy hotels to lodges to homestays. The latter may create more local-level jobs and require less capital investment, one of the benefits of smaller-scale, more decentralized forms of tourism. In all forms of tourism, the capital investment required for tourism may be offset by services generated as a result of tourism, such as touring, shopping, and local purchasing of supplies. It is this latter generation of local and regional benefits that can often be maximized in ecotourism development.

Substantial employment on a national basis from nature-based tourism is probably only significant for a few countries, such as Nepal, Kenya, Tanzania, and perhaps Costa Rica. However, only a fraction of this tourism could be defined as ecotourism. A review of the cases suggests that the attributes that have made nature-based tourism into a significant factor for national-level employment are: 1) substantial numbers of tourists to see nature-based attractions; 2) dispersal of tourists throughout different regions of the country; 3) a variety of ecotourism activities, including nature and cultural viewing, adventure-oriented activities, shopping for locally-made products; and 4) high levels of "add-on" tourism — tourism for reasons other than nature but where a day or two may become nature-based once the person

is in the country. It is possible for ecotourism to have high economic importance but low employment generation. For example, in Rwanda, high fees are charged to take tourists to view gorillas. Visitors are concentrated in a small area and there is virtually nothing else for them to do or buy. The employment generated is extremely small relative to the national economic importance. In contrast, the Tiger Mountain Group in Nepal employs 5,000 people during peak seasons [Roberts, J.O.M. and B.D.G. Johnson, 1985 in Lindberg, 1991: 8]. Nature-based tourism to Royal Chitwan National Park is responsible for direct employment of about 1000 people in hotels and lodges and another 500 are employed as guides, laborers, Tharu dancers, restaurant employees and shopkeepers. The seven concessions within the park also are a source of employment for local communities outside the park, with about 635 employees in 1993 [Sowers et al., 1994a]. At local and regional levels, one of the strong arguments for ecotourism is that it can be a source of employment for people in remote areas who otherwise would have few alternatives but dependence on, and possible depletion, of wildlands and wildlife. Revenue from tourism can be just one component of a strategy of "multiple jobs" that lets people have a variety of income sources spread throughout the year. This has been the case in the western U.S. where some ranchers welcome tourists to "help" on a working ranch. The income may be small but significant when combined with other earnings. Seasonal earnings are also important for many Sherpas who are employed as porters for several months each year. While the seasonal aspects of tourism employment can be advantageous in some rural contexts, the lack of employment-stability and year-round income may diminish ecotourism's effectiveness in changing local patterns of resource use and dependence.

Diversification

For many countries and regions which are highly dependent on a few commodities, tourism provides an important avenue for economic diversification. Such diversification may be especially important for countries which may have difficulty increasing manufacturing and exports, such as landlocked coun-

tries (e.g. Nepal, Rwanda, and Bolivia). Just as tourism can be an important way to diversify a country's economic base, ecotourism can be an attractive way to diversify the portfolio of tourism activities within a country. Once the infrastructure is in place for more general tourism, promoting ecotourism may be relatively easy, especially on a small scale and as an "add-on."

Regional and Local Growth

Tourism has been used as a way of spurring regional economic growth in countries. One of the most famous examples of this is in Mexico, where the government explicitly decided to use tourism as a way of stimulating economic development in diverse regions of the country. While no one would point to Cancun as a desirable model of tourism development, its transformation from a fishing village with 426 residents to a major tourism center with 300,000, residents is a dramatic example of the potential for tourism to serve as a development growth pole [Daltabuit,1992:4]. Nature-based tourism can become an important force in regional economic development; in contrast, ecotourism will not because of its low levels of scale and impact. Once high levels of tourism occur, the form of tourism becomes mass tourism.

Although tourism and ecotourism can have important local benefits, even small-scale development may have negative impacts. One of the most common is that as interest increases in resources (whether land, animals) or access, local people may be pushed out or sell out. Local prices for commodities often increase as well. The local impacts of tourism are likely to be similar in developing and developed countries; for example, residents in the Austrian Alps felt that the overall influence of tourism on their communities was positive, but that tourism had also brought about higher prices for basic necessities, higher taxes for community infrastructure and tourism oriented recreational facilities, competition among villagers as well as communities over the distribution of benefits, and decreased participation in community projects [Kariel,1989].

Fostering Greater Peace and Understanding

Tourism provides countries with potentially free public relations which may help to increase and expand business. On a global level, tourism advocates point out that it helps to foster "an appreciation of the rich human, cultural and ecological diversity that our world mosaic offers; to evolve a mutual trust and respect for one another and the dignity of all life on earth" [D'Amore, 4.1990].

In some regions, such as Central America, the creation of four bi-national peace parks has been promoted as one way of increasing regional peace while enhancing biodiversity objectives [Arias and Nations,1992. Ecotourism has been viewed as a key financial vehicle to support these initiatives.

Domestic Versus Foreign Tourism

One important distinction for countries to make is the type of tourism that they wish to encourage. Most countries are interested in international tourism for the foreign exchange it brings. However, domestic tourism has several advantages over international tourism, in that *:

- builds a national constituency for parks and conservation;
- generates stable revenues for conservation and protection of cultural property;
- fosters national integration.

Ecotourism can be a way of introducing middle classes, and elites, who are normally the people with some disposable income and leisure time, to the importance of maintaining wild habitats. Use of and appreciation for wildlands helps to create a constituency for conservation within countries and convince people of the importance of maintaining biodiversity within and outside parks. In Costa Rica in 1990, for example, over 227,300 residents visited the national parks as compared with 161,800 foreign visitors [Place, 1991: 187]. This high

visitation rate by Costa Ricans has been credited with generating a larger interest among residents in supporting conservation. It has largely resulted from the presence of a large middle class and good access to the parks. Domestic tourism is resistant to international shocks, such as recessions or wars. Another benefit is that the tastes and preferences of domestic tourists are often similar to those of residents in the destination area.

Conclusion

Tourism is an important, often significant, component of a country's development strategy because it can provide foreign exchange, employment, economic diversification, and growth. The economic benefits of foreign exchange are often reduced by the negative effects of economic leakages. This is especially

true in rural areas, where most ecotourism sites would be, where there is little enterprise and infrastructure to capture income. Tourism offers employment that may have national significance. Although tourism is less labor intensive than often assumed, ecotourism can create significant employment and income generating opportunities at the local level. Providing alternative livelihood opportunities that relieve pressure on natural resources has broader significance socially and environmentally. The potential for local and regional growth through ecotourism can be significant, depending on how benefits and negative impacts are distributed. Domestic tourism has a high potential to make major contributions to both ecotourism and biodiversity conservation by creating a national constituency for conservation.

² The measurement of tourism expenditures is difficult, however, because the tourism industry consists of many component sub-industries. Whereas expenditure on tangible goods is measured by totalling sales, tourism expenditures are ideally measured by adding up the individual tourist's spending [Sheldon, 1990]. Another complicating factor is that gross foreign exchange earnings are not the best measure of the revenue countries receive.

6 Management Issues and Options

While much of the literature on ecotourism highlights tourism's impacts, both positive and negative, few of the studies discuss how tourism is organized and managed. Perhaps the single most important consideration in how ecotourism affects rural communities is the level and type of control which local people have in its development. Local involvement and control can range from ownership, management of co-management or actual ventures, to participation in planning. Private sector involvement can range from individual entrepreneurs, whether local or from outside the community, to national or foreign corporations. Governments can be involved in one or many ways, including regulation, planning, coordination, promotion, and revenue capture. Finally, the scale of tourism in relation to the site and the surrounding communities can vary dramatically.

In thinking about ecotourism management, it is essential to first look at how these factors are inter-related. All kinds of ventures and partnerships are found within ecotourism — from more traditional arrangements such as large private reserves employing local people on an individual basis to indigenous groups hiring or entering into partnerships with the private sector, such as the Kuna Indians in Panama, Uluru in Australia and Capirona in Ecuador [see Annex for latter two cases]. There are also cases where industry or government have the lead role. Tourism to Kenya, which is substantially nature-tourism oriented, is primarily controlled by multinational corporations based outside the country, although rents are received by District Councils [Bentley, pers. comm.]. Rwanda offers an example where the government controls and manages much of the tourism and there is minimal local involvement other than through

employment. Such externally-planned ecotourism development can be contrasted with local entrepreneurs which “spring up” to satisfy a demand for ecotourism, which has been the case in many parts of Costa Rica or Asia. Entrepreneurs, either from within the local community, or from outside, have set up special lodges and facilities for tourists [Horwich et al., 1993].

All of these arrangements from small, locally controlled tourism, to large-scale internationally owned and operated tourist facilities use the “ecotourism” label. But it is evident that the differences in the level of benefits, the effects on local communities and culture, and the type of benefits generated depends on the respective roles of government, the private sector, and local communities.

Local Involvement and Control

Tourism can rapidly change the social and economic situation in communities. Working with community groups to identify ways of promoting ecotourism requires time, energy, and organizational capacity. However, if one of the objectives of ecotourism is to provide economic opportunities to reduce pressures on wildlands resources, such participation is essential. A great deal of brokering is often necessary, since private sector interests may want to move quickly and expect fast answers to remain competitive. Tourists may show up even if services aren't in place, “spearheading” other tourists.

There are a number of cases where local groups have received substantial benefits from ecotourism while minimizing adverse impacts. Most cases have been where the local groups

have some degree of autonomy over the lands where they live. Such traditional groups, especially if they have a cohesive social structure, can exercise greater control over tourism and its impacts. They can decide what level of tourism they want, what cultural practices they wish to share, and where tourists can go. They can develop tourism facilities themselves, in partnerships or joint ventures with industry, or they can delegate all rights in return for user fees. Local ownership and control is clearly the most basic of the "conditions...and planning actions under which the positive economic development benefits [from tourism] will flow to local people" and which can "minimize negative economic, social, and cultural impacts on resident people" [Johnson, 1991:393]. However, community control may not be an equitable process or lead to wide-spread distribution of benefits. Studies of ecotourism impact in Nepal suggest that only those who were village elites were able to capture ecotourism benefits [Sowers et. al. 1994a; Wells and Brandon; 1992]. Ecotourism can thus exacerbate local levels of income inequality within communities, or among communities in a region.

In many societies, the traditional authority structures may inhibit extensive participation in decision-making or may make it difficult to elicit the opinions of certain groups, such as women, young men, or the landless [Brandon, 1996]. In spite of this, democratic decision-making and benefit-distribution are the models most commonly promoted by NGOs, even though these models may not fit within the cultural context of indigenous peoples. Also, there are many different kinds of leaders. The leaders needed to control such ventures must be entrepreneurial with an ability to judge what will work both within the community, as well as with outsiders. Traditional authorities may be effective within their own system, but it is often younger, better educated men who deal with outsiders [Brandon, 1996]. Determining who the "real" leader is and who represents group interests best can be extremely difficult for outside groups entering into partnerships.

Many rural local populations worldwide lack secure ownership or title to the lands and resources that they depend on for their livelihood. In many cases, the places where they live are theirs through "customary" use rights and even ecotourism can lead to conflict over land claims. For example, the southeastern coast of Costa Rica received few tourists until improved roads led to rapid changes in land use for weekend houses and hotels. Local people, without title to land, were unable to receive market value, or sometimes any compensation, when outside interests came in to purchase land [see Wells and Brandon, 1992: Talamanca case].

Where local communities have few bargaining chips to use with industry or governments, they have had little input into decision-making and their needs are rarely taken into account. This is particularly true for noncohesive communities. Decisions made usually favor the needs of the tourist and the operator/owner of the site rather than the needs of the community. Employment may be one of the few benefits received, and jobs may not be distributed equitably or in the best way to encourage biodiversity conservation. Working with communities to link ecotourism benefits with conservation objectives requires strong social assessments [see World Bank Social Assessment Guidelines for Biodiversity Conservation Projects] and possibly technical assistance.

Private Sector Involvement

Private sector involvement in nature-based tourism ranges from small, locally-owned enterprises to tours run by universities and conservation NGOs, to corporate giants, such as American Express. The majority of the services required to transport travelers from one place to another are private, which means that most high-value ecotourism sites and tours are likely to be promoted, and even operated, by international groups and companies. In most cases, the majority of what tourists pay for a trip (airfare, hotel in the capital, operator's share) will go to expatriate companies. This highlights the importance for protected area managers to make sure that the

mechanisms are in place to capture and retain some revenue from tourists – ideally starting with some type of user or entry fee.

Without the capital to provide appropriate food, lodging, and other services which ecotourists need, there are often few ways that local people can own ecotourism services. One study in Belize showed that it was extremely difficult for national investors to get the credit to start what are seen as risky ventures. However, if they entered into partnerships with external firms, the same banks were more willing to encourage such lending [Lindberg and Enriquez, 1994].

In some countries, such as Kenya, there is little doubt that tourism would not have developed into an important national economic revenue source if multinational corporations had not made the initial investments and spent a considerable amount of money on marketing. While multinational corporations may repatriate the highest percentage of their profits, causing high-level leakages, they may also have strong incentives to invest in local communities. Some multinational corporations have made significant investments in guard training, setting up infrastructure, and providing benefits to local communities. For example, Abercrombie and Kent, a large tour operator, has established a non-profit conservation group to provide financial support to protected areas in Kenya where they take tourists. Foreign companies may also be more willing to construct simple lodgings in the national style. Conversely, national companies may be more biased against local buildings and promote “fancier” and less environmentally appropriate facilities. There is an increasing realization among large firms that for tourism to be sustainable, and for tourists to continue to come to the destination they offer, the site must be clean, interesting, and attractive. Some of the large operators express concern that the smaller operators have greater flexibility to rapidly change destinations if local wildlife or culture is disrupted. In contrast, the larger operators feel they have made an investment in the area which will only succeed if tourism can be sustained at a quality level over the long-term.

Tourism which is locally owned will in most cases generate greater benefits for the local economy [see Belize examples in Annex]. Locally-owned tourism is generally promoted among international conservation and development NGOs involved in ecotourism. Yet there are a number of difficulties associated with the development of a local private sector. The most obvious is that the skills and capital to start small-scale businesses are often lacking. In most cases, developing a local private sector response is easiest when ecotourists are already attracted to the area or when there is a specific wildlife or nature-based attraction, such as manatees or waterfalls.

Role of Government

Government, more than any other entity, has the potential power to shape the face of tourism internally – how it is promoted, planned and managed, and regulated. For some countries, ecotourism may be one of the most obvious ways to promote “sustainable development.” There are three inter-related ways in which nature-based and ecotourism can be promoted by government actions. These are:

1. the role of government in policy and program coordination, including revenue collection and redistribution.
2. the infrastructure and incentives which the government dedicates to ecotourism;
3. planning and promotion between national and local level ecotourism ventures.

Policy and program coordination can be extremely important. In Nepal, the 1993 amendment to the Wildlife Conservation Act provides for the distribution of from 30 to 50 percent of park and protected area revenues to surrounding communities. Bhutan has intentionally limited tourism by requiring that visitors spend \$200 per day and limiting the number of tourists who can visit Bhutan each year [Wells, 1993: 17]. Additionally, they have restrictions on development so as to keep tourism small-scale and dispersed. Botswana enacted a National Tourism Policy in 1990 to “obtain, on a sustainable basis, the greatest possible net social and economic benefits for Botswana from their tourism resources: scenic

Box 4: Contrasting Panamanian and Costa Rican Approaches to Tourism Development

Panama has potential advantages in ecotourism promotion over neighboring Costa Rica: the presence of large numbers of Panamanians who speak English (important given proximity to U.S.); a national park spanning the canal zone; and the opportunity to link cultural tourism to the Kuna Indians with ecological tourism. Yet ecotourism has not been pursued, and Panama has promoted hotels, casinos, and shopping [M. Chapin 1990:42-45]. Although the Kuna Indians established a camp for ecotourism and for scientists, it has had few visitors, due in large part to difficult access. In contrast, Costa Rica has developed a new tourism strategy and is linking protected areas into the larger regional context. One way Costa Rica is linking protected areas, and thus tourism benefits, with the areas around them is by allowing parks to keep a portion of the gate fees and then use them for region-wide activities which support conservation and local initiatives.

beauty, wildlife, and unique ecological, geological, and cultural characteristics." New approaches to implement this are: single land use zones, worker training programs, and direct compensation schemes [Whisonant, 1992: 10].

Ecotourism can, at a local level, take place without government support in any of these areas. But for ecotourism to provide the maximum benefits to communities and countries with a minimum of negative impacts, some level of governmental intervention is required. Ultimately, planning, management and oversight of tourism (including nature-based), is a government responsibility. Many governments have national tourism promotion offices and there is often a misconception that "promotion equals planning" [Ishmael, 1992:231]. Even when tourism is a critical component of an economy, there is often difficulty in coordinating the variety of planning, promotional, and regulatory functions and services.

In particular, promotion of tourism to protected areas and lack of coordination among different governmental agencies can cause conflict. The significance of some areas for global biodiversity has led to their designation as World Heritage Sites and RAMSAR (wetlands of international importance) sites [Wescoat, 1992: 31]. Examples of World Heritage Sites include: Ngorongoro Conservation Area, Tanzania; Dogon/Bandiagara, Mali; Huai Kha Khaeng Wildlife Sanctuary in Thailand; and Uluru National Park in Australia. Simply conferring World Heritage status

on an area does little for conservation if the government lacks the political will to undertake strong management in support of the area's conservation objectives. For example, the Thai Government proposed allowing the Tourism Authority of Thailand (TAT) the right to manage "tourism zones" anywhere — including in national parks — for tourism, rather than for biodiversity conservation. Criticism from a broad coalition of groups thwarted this plan.

A strategy or overall plan for nature-based tourism, even in countries where the revenues from such tourism are high, is usually nonexistent. If such a strategy does exist, it is often limited to national strategies for state lands, such as conservation areas or national parks and monuments. Furthermore, in most countries, there is no one agency responsible for tourism or for developing an overall strategy, so it is difficult for the lead agencies to get other agencies to become involved. For example, in Zimbabwe there is a Ministry of Environment and Tourism, a board of tourism (ZIMTOUR) and a separate agency responsible for Museums and Monuments. It is not uncommon to find several governmental agencies, protected area personnel, local communities, tourism industry, non-governmental organizations (NGOs), financial institutions, and consumers involved in ecotourism planning [Boo, 1991: 8]. Coordinating tourism policies is complex when such diverse agencies are involved, and when conflict is likely. Tourism promotion to biologically sensitive areas should be undertaken only after adequate safeguards exist.

The costs of developing the necessary management plans and the infrastructure to accommodate tourists can represent a significant outlay of human and financial resources, especially if undertaken by park management agencies. To "do it right" usually means that the infrastructure should be in place before tourism is encouraged, although this is difficult without the certainty that the investments will lead to tourism. Without external financing from international agencies or conservation NGOs, it may be impossible for parks departments to raise the necessary start-up costs. For example, startup costs for a project within a Ugandan park to habituate chimpanzee troops for small groups of tourists include staff-time, two vehicles, volunteers' living expenses, construction materials for small cabins and a visitor center, and trails construction. Assuming full bookings, it will take about three years to recover start-up costs of \$421,000 plus operating costs [Makerere University Biological Field Station and Annetee Lanjouw: 1990]. Initial costs were financed from grants from international conservation and development organizations, with future revenues from ecotourism projected to cover park management costs. The NGOs saw this initial capital outlay as a way of generating permanent income for park management.

Another difficulty in realizing ecotourism's potential relates to the linkage between planning and coordination and regulation. For large scale tourism developments, such as resorts, it may be possible for government to set certain guidelines (e.g. government approval is required for developments over a certain size). This can more easily be done in the case of mass tourism and resort development. Many of the policies with greatest impact on the size and character of a country's tourism industry were made with little thought of their impact on either tourism or biodiversity. For example, in the United States, some of the national policies most important for tourism were the creation of the national park system (1916), the decision to build the interstate highway system (1956), and deregulation of the airline industry (1978) [Healy, 1992a:24].

In order to increase levels of mass tourism, most countries need to invest in infrastructure for its development. When investment capital is lacking, countries' may also offer incentives for multi-national corporations to undertake the development. Infrastructure development can include the construction of airports, roads, and water and sewage facilities designed to serve tourists, although many of these systems benefit residents as well. In contrast, developing an ecotourism strategy means linking together a host of small-scale developments, which are geographically dispersed and include both the public and private sectors.

One of the arguments for ecotourism is that it requires less infrastructure than other forms of tourism. This clearly depends on the type and level of ecotourism. Ecotourists however, share some requirements with mass tourists: airport service, hotels in the capital city (in most cases for a night or two); sufficient transport infrastructure to get to the destination, whether by car, jeep, train, or air. Even with ecotourists, lack of infrastructure can limit the revenue generated from ecotourism, as in the case of Rwanda.

Governments are increasingly looking toward nature-based tourism and developing special incentives to foster it. For example, Belize, Australia, and Venezuela have all developed some type of nature-based tourism plans, in many cases as "add-on" tourism. Examples include luring visitors to Belize or Australia to also spend two-days at a rainforest site or at the Great Barrier Reef.

One of the difficulties in promoting ecotourism is the need to integrate national and local level initiatives. While countries may be quick to promote ecotourism as a source of regional economic growth, promotion is often emphasized at the expense of planning. In many cases, a lack of integration of local level plans with national level policy has led to greatly reduced potential for ecotourism.

Just as short-term objectives outweigh the long-view, national priorities often outweigh local interests in tourism planning. When the primary objective of ecotourism promotion is

habitat and species preservation, conservationists have to be most concerned with improved management of protected areas, which includes fostering positive linkages between ecotourism activities and the surrounding local communities. In the short run (and depending on the size of the country), tourism development gone awry at a particular beach can be shifted to another. But habitat degradation which leads to species extinction or loss of an ecosystem can entail a irreversible blow to environmental agendas.

Partnerships

Perhaps one of the most exciting developments in ecotourism is the emergence of new kinds of partnerships. There is increasing recognition that partnerships between local people, the private sector, and government open up a range of opportunities that would not be available to any one group. Most of these partnership arrangements are of recent origin: most are accepted because they make good economic sense and benefit all partners.

Some linkages will be born of necessity, e.g. the need for local groups to market their destination to a wider audience. Other linkages may result from a need for greater flexibility in management. This has led to partnerships between governments and NGOs, where management is delegated to the NGO. Delegation of management for the Annapurna Conservation Area (see Annex) to the King Mahendra Trust for Nature Conservation is an example of the latter.

Partnerships between the government and the private sector have often allowed the private sector to manage operations and run concessions in places where the government lacked

the resources, capacity and investment, such as in protected areas [see MacKinnon et. al. 1986]. Interesting partnerships have started between governments and local people, such as at Ayers Rock, or Uluru, in Australia (see Annex). However, appropriate arrangements will depend on local circumstances.

New arrangements are constantly being devised with an increasing number of partners, including all those mentioned above, plus international donors. For example, USAID is promoting a tourism strategy called Low Impact Tourism (LIT). LIT focuses on establishing indigenous natural resource management through private sector initiatives and investment in rural village-based tourism business infrastructure. Rural communities would get a percentage of tourism revenues, employment benefits and improved infrastructure [Lillywhite, 1992].

However, while bringing many partners to the table offers the strengths of the combined organizations, it can make coordination and decision-making quite cumbersome. In such cases, ecotourism development may seem akin to a large integrated development project, with many of the difficulties that these projects face. Projects with fewer partners may be more manageable, but may require high levels of coordination with other agencies. Another concern is that the actors involved in tourism development use concepts like 'ecotourism' and 'sustainability' to defend or satisfy their own interests, even though amongst the different stakeholders there is no consensus about the precise meaning of the terms [Hummel, 1994]. Attempts to reach partnership agreements must be based on a shared vision.

Box 5: Indigenous and Private Sector Partnerships

The Cofan Indians of Zabalo, Ecuador and Metropolitan Touring, the largest ecotourism tour operator in Ecuador, have formed a partnership called Aguarico Trekking. Profits from ecotourism are shared 50/50. Metropolitan Tours brings the marketing skills, investment capital for motors, mattresses, and latrines, and transports people to Zabalo. The Cofan own the land, know the forest, have the canoes to travel deep into forest rivers, and can construct minimum impact trails and lodging. The program: 1) provides the tourists with a unique cultural and natural experience; 2) produces revenues to support the Cofan and the rainforest; 3) provide an economic incentive for the Cofan to continue their wise management of the area [Proaño, 1992].

7 Conclusions and Recommendations

This review of some of the key issues of ecotourism and nature-based tourism highlights the complexity of using such tourism as a tool for conservation and sustainable development. There is an explosion of interest in ecotourism as a funding source for conserving both biodiversity and cultural patrimony and as a strategy for generating socio-economic development. The demand for ecotourism has been steadily increasing, a trend that can be expected to continue. Trips exist in a variety of price ranges and styles and more are being developed all the time.

One of the advantages claimed for ecotourism is that it is seen as more ecologically and culturally sensitive and less likely to bring the negative impacts associated with mass tourism. How well ecotourism lives up to these criteria depends principally on the planning process prior to ecotourism initiatives and the management controls and involvement of stakeholders once they begin. However, strong government and local controls are often necessary to insure that tourism practices by the private sector are environmentally and culturally sustainable.

Cases reviewed in this study cover a range of protected areas, cultures, types of ecotourism enterprises and management options. In many cases, ecotourism and nature-based tourism have not lived up to expectations in terms of creating revenues for conservation or in creating alternative income sources to take pressure off protected areas. Nevertheless, they remain a potential avenue for conservation. How effective it is will ultimately depend on who will benefit, as well as where, when and how it can be appropriately implemented. This paper identifies five key benefits for

conservation which can be appropriately targeted in the context of most ecotourism and nature-based initiatives:

1. a source of financing for parks and conservation;
2. economic justification for park protection;
3. economic alternatives for local people to reduce exploitation of conservation areas and biological resources;
4. constituency-building which promotes conservation; and
5. an impetus for private conservation efforts

If ecotourism and nature-based tourism are to generate these benefits for biodiversity conservation, there are a number of conditions which have to be met. First, sites must be competitive (e.g. unique and able to attract visitors). Second, protected area authorities must have the capacity and jurisdictional mandates to design and implement sustainable ecotourism consistent with the PA objectives. Third, fees must be collected and they must reflect the management costs of tourism and/or site protection; pricing should reflect both equity issues such as two-tier user fees as well as market rates. Finally, such revenues should first be distributed to the parks where collected with left-over funds applied towards priorities in overall biodiversity conservation in the country.

In most countries, nature-based tourism has been promoted by government or industry without an overall strategy, effective protected area management plans, and without consultation or inclusion of local communities. While local communities do receive benefits from tourism, these benefits are most frequently in the form of seasonal or low-paying jobs. At the

community level, ecotourism may generate increased revenues, provide for more infrastructure such as roads and electricity, or proceeds from ecotourism may be directed to community projects such as school construction, and health clinics. Yet these benefits may be *offset in the eyes of local communities* by interference in their daily lives and resultant cultural changes. When the low-impact scale of ecotourism is exceeded and the tourism, even if nature-based, takes on the characteristics of mass tourism, increased traffic, pollution, sequestering of profits by outsiders, and rising local prices can all become significant problems.

Some of the key conclusions from reviewing the literature and the cases described in the annex are:

1. Excessive or unmanaged visitation adversely affects ecotourism sites, both culturally and ecologically. How to best manage ecotourism and the appropriate levels of visitation and development can only be determined at the site after careful analysis of the local conditions. Clear management objectives, zoning, and regulations and the authority to impose limitations on tourism are essential prerequisites.
2. Benefits from tourism may be insufficient incentives for local communities to support conservation. Often, economic benefits have been insufficient, or have been inequitably distributed within local communities. As a result, they have not provided sufficient incentive for changes in natural resource use. Community participation is essential if ecotourism is to provide local level benefits. The case studies demonstrate that such benefits will not emerge spontaneously: they can only come about as the result of clear planning and management.
3. Partnerships are important for establishing links between the private sector and local communities. Local communities often lack the capacity to develop and manage ecotourism on their own. Governments, NGOs and other non-profit groups can have a significant role in promoting partnerships that provide technical assistance, training, and capital that are vital allow for communities to share in the benefits.
4. Governments generally provide inadequate protection and management of the natural and cultural assets which draw tourists and provide valuable foreign exchange. Planning, if undertaken, is fragmented among numerous government agencies with unclear jurisdictions and few funds. Despite the potentially high levels of benefits, regulation and management of ecotourism is generally not viewed as a government priority.
5. While there is evidence that eco-tourism and biodiversity conservation can co-exist, it is also the case that biodiversity conservation is not significantly helped by ecotourism. This is especially true in parks and protected areas, unless strong management of tourists and retention of revenues are possible. In most cases revenues from ecotourism are minimal compared to management costs. Careful consideration should be given to the tradeoffs between benefits to protected areas and increased costs and impacts (see annex). Nature-based tourism strategies within countries can balance these tradeoffs across protected area systems.
6. Governments are reluctant or unable to use ecotourism as a way of generating substantial support for nature conservation and local level development. While direct budgetary allocations may be necessary at the "front-end" to see that projects are well-managed, ecotourism could be an important source of financing through improved collection and pricing of user fees and taxes on direct and indirect expenditures on goods and services.
7. Strong government and local controls are often necessary to insure that tourism practices by the private sector are environmentally and culturally sustainable.
8. Strategies to generate short-term profits, whether developed by protected area management agencies or the private sector, are often incompatible with sustainable environmental and development objectives.

9. Add-on tourism has the greatest growth potential for ecotourism. It offers the greatest potential for increased domestic control of ecotourism, both by the private sector and communities.

Ecotourism represents one of the few areas where the link between economic development and conservation of natural areas is potentially clear and direct. But these links have not led to the expected benefits at many sites worldwide, for the reasons identified throughout the review. Clearly, there is a great need in the field for innovation and for new management practices which separate ecotourism from mass tourism. Partnerships will be an important component of ecotourism benefiting both parks and local communities. Without government regulation or strong delegation of management authority to the regional or local levels, ecotourism in most places won't differ from mass tourism. The challenge for ecotourism planners will be to establish regulations and incentives so that socio-economic benefits are generated, and appropriately distributed, from activities which are culturally and ecologically sustainable.

The following recommendations offer a basic list of actions which different organizations and groups, the partners in ecotourism development, could implement to help ecotourism serve as a vehicle to provide environmental, socio-economic, and cultural benefits at both local and national levels. This emphasis on generating local and national benefits should serve as the basis for developing future ecotourism activities. Some of the recommendations have been adapted for ecotourism from conferences such as the Globe90 conference. Most flow from this paper. Some may be controversial; they represent strong positions on the subject and they are intended to stimulate dialogue. Others may need to be strengthened. All are offered as a way of encouraging appropriate agencies to take action, and as an implicit "checklist" for groups engaging in ecotourism.

Actions for Parks and Protected Areas Site Management

1. Define clear objectives for the park or protected area and how tourism can be accommodated within those objectives.
2. Determine the acceptable limits of ecosystem change within ecotourism destinations, develop appropriate management objectives and zoning, and establish on-going monitoring programs. Carrying capacities should be regarded as flexible and subject to change based on changing conditions.
3. Develop and implement strong management plans and practices which will control, regulate, and enhance tourism to the park. Professional guidelines for protected area planning and management [e.g. MacKinnon et al, 1986] should be used.
4. Contact local communities about tourism development and opportunities for maximizing benefits to parks and communities.

Actions for Local Communities or Agencies Assisting Them

1. Learn about impacts, options and possibilities of ecotourism development and define mechanisms for involvement in ecotourism planning and development.
2. Explore means for ownership of specific ecotourism ventures, through increasing interests and investment, even if through sharing of risk – in the form of financing, labor, or land.
3. Explore market niches for art and handicrafts, possibly with the help of NGOs and national trade promotion agencies. Consider importance of traditional knowledge and potential impact of change on potentially marketable products.
4. Consider strategies for ecotourism as compensation for restricted access (e.g., to PA). Such strategies should ideally not include simple payment. More appropriate approaches are:
 - a. coordinated investments in local infrastructure and services (e.g. education and health) that improve local quality of life;
 - b. collection of local user fees from ecotourists which support local development initiatives, such as handicraft cooperatives or financing of small-scale ecotourism facilities (homestays and restaurants).

Recommendations for Government

1. Supplement ongoing promotional activities, if any, with strengthened planning procedures to improve the sustainability of ecotourism. Such procedures should:
 - a. Require the development of ecotourism strategies as components of relevant government planning documents. For example, protected area management agencies should fully consider how ecotourism will be integrated with protected area management plans.
 - b. Clarify the jurisdictional mandates and responsibilities of the different agencies involved in ecotourism planning and management.
 - c. Develop standards and regulations for environmental and cultural impact assessments, monitoring and auditing of existing and proposed tourism developments.
 - d. Design and implement public consultation techniques and processes to involve all stakeholders in making tourism-related decisions.
2. Develop pricing policies for use of ecotourism sites which are fair to country nationals but which charge higher fees to foreign visitors, reflecting the true cost of operating and maintaining such areas sustainably.
3. Enforce regulations for illegal trade in wildlife, historic objects and crafts; unofficial archeological research; and desecration of sacred sites.
4. Decentralize, to the extent possible, responsibility for area-specific ecotourism strategies and developments — subject to national standards and policies.
5. Develop appropriate legal framework and regulations to contract, monitor, and benefit from private concessions on public lands.
6. Create national tourism advisory boards, such as National Ecotourism Councils, which involve all stakeholders, including local government, NGOs, private sector, and indigenous groups.

7. More carefully assess, as per IMF guidelines, the importance of tourism as a component of national economic activity.
8. Assign priorities to the use of ecotourism revenues as follows:
 - a. maintain and develop the areas in which the funds were generated, including activities which benefit local communities and which are directly linked to the protected area;
 - b. support national activities to promote, plan and manage ecotourism e.g. parks and protected areas network;
 - c. support conservation education and increased awareness;
 - d. develop innovative financial mechanisms to ensure long term support e.g. green taxes on tourists.

Recommendations for the Private Sector

1. Support the collection of ecotourism user fees (e.g. entrance fees to park + donations) from tourists when these are dedicated to maintaining and improving the quality of the areas visited. Also, help monitor government (or NGO) use of such revenues.
2. Develop facilities which are environmentally and culturally appropriate in scale, construction, and context.
3. Introduce sound environmental practices, including waste reduction and recycling, and the use of energy efficient practices.
4. Provide tourists with complete and credible information on any relevant issues, such as behaviors expected of tourists, local environmental or health risks (e.g. malaria), and hazards or impacts associated with travel.
5. Explore joint ventures and partnerships with local communities, NGOs, or other organizations (e.g. governments in the context of debt swaps or other financing arrangements) for ecotourism development.

Recommendations for NGOs and Academic Institutions

1. Act as the intermediaries between the private sector and local interests in ecotourism development. NGOs can be particularly effective at organizing local groups to insure that their interests are both protected and represented, insuring the involvement of diverse stakeholders, and in working with the private sector on ways local benefits can be maximized.
2. Identify technologies and products that are produced or used locally and which are economically and environmentally sustainable in order to reduce waste and economic leakages. These technologies and products would be promoted along with or incorporated into ecotourism activities whenever possible.
3. Identify and work with local groups to provide them with the training, technical assistance and information necessary for them to participate in the benefits and employment opportunities from ecotourism.
4. Collect information, monitor, and evaluate ecotourism development. These are valuable services which can be used to identify: a) the impacts of tourism on the local environment and culture; b) participation in local tourism developments; c) impacts of other economic sectors on tourism; d) government and private sector commitments to ecotourism; and e) recommendations for improving visitor management.
5. Utilize and support research. Academic institutions can provide a knowledge base to better understand ecological and societal health and therefore inform tourists or local communities on how to sustainably manage their resources.

Recommendations for International Institutions

1. Integrate planning for ecotourism into programs and activities related to both conservation and cultural patrimony. Make scale an explicit consideration in project design.
2. Use social assessment guidelines to identify stakeholders in ecotourism activities.
3. Assess applicability of indigenous knowledge and natural resource management systems and integrate this knowledge into tourism development.
4. Accelerate efforts to protect the world's cultural and natural heritage through international instruments such as the World Heritage Convention and the Convention on Trade of Endangered Species (CITES). Work with countries to achieve the political commitment necessary for a commitment to conservation.
5. Promote environmental education. Increased domestic pride, appreciation and concern for threatened landscapes, ecosystems and species is necessary for ecotourism to fulfill its potential. Educational outreach should be a priority to help establish the link between ecotourism and conservation benefits.
6. Support the recommendations of the IMF and World Tourism Organization that tourism be explicitly identified in a country's national accounts. Although difficult to do, such information would increase awareness of the importance of the sector.

Annex: Selected Ecotourism Case Studies

- Australia: Uluru, Northern Territory
[Source: Uluru-Kata Tjuta Board of Management, 1991 and Altman, 1991]
- Belize: Country Overview
Community Baboon Project
[Source: Horwich et al., 1992]
Cockscomb Basin Wildlife Sanctuary
[Source: Horwich et al. 1992, and Lindberg and Enriquez, 1994]
- Costa Rica: Country Overview
Monteverde Cloud Forest Reserve
[Source: Baldares and Larman, 1990; Boo, 1990; Honey and Littlejohn, 1994]
- Ecuador: Galapagos
[Source: Brandon and Murer, 1996]
Capirona
[Source: Colvin, 1994 and Silver, 1992]
- Indonesia: Country Overview
Siberut
[Source: Sproule and Suhandi, 1994 and Asian Development Bank]
Tangkoko DuaSaudara Nature Reserve
[Source: Kinnaird and O'Brien, 1996]
- Nepal: Country Overview
Annapurna Conservation Area Project (ACAP)
[Source: Wells, 1995, 1993]
- Niger: Air/Tenere National Nature
[Source: Elbow in Wells et al., 1992]
- Uganda: Bwindi Impenetrable Forest Conservation Project
[Multiple sources]

Uluru: Northern Territory, Australia

Ayers Rock is a national monument, as well as one of the most visited parks in Australia. Aboriginal Australians were given title to the land that was Ayers Rock National Park in 1985 with the stipulation that they would lease it back to the Park Service for 99 years. This gives the aboriginal population tremendous control; if the Park Service does not maintain the land or resources, or undertakes activities which the community does not perceive are in their interest, the Government will eventually lose the park. Thus the government through the Park Service is accountable to the local people.

The Park Service and the local community work together on multiple levels in the maintenance and management of the park. Aborigines are in the majority on the Board of Management, the highest governing authority in the park which oversees park management. The Board is made up of 10 people, 6 of whom are aboriginal. The Board designs the management plan for the park (which is then ratified by the Park Service in Canberra). They are also involved in the selection of other members. Another component of joint management is that the community selects someone to represent them who has authority equal to that of the park superintendent (highest position in the park). This individual is paid by the park, but represents local interests and is supposed to help insure smooth relations between the park and the community.

Regulations to protect the land and assure community involvement are spelled out in a formal written agreement. The Park Service has allowed no tourist facilities other than an information center which is part of the park headquarters. They have also been willing to close the park to tourism while aborigine ceremonial rituals take place. While this has led to economic losses and resentment from some non-aboriginals, it has demonstrated respect for aboriginal traditions.

Community involvement with tourism is largely through the park. All park planning, literature and displays are either created or approved by the community. The actual contact between tourists and the community is

limited to those aborigines who want to be involved with tourism directly and are paid for it. The community itself is closed to tourists, although the focus of the park is as much on aboriginal issues as on the natural formations.

Aborigines are employed in a range of ways, from contract positions as rangers, as park administrators and on the Board of Management. Local people are also hired by the park for unskilled or semi-skilled contract jobs, e.g. controlled burns. Some local people give tours to tourists to show how resources from the area are used. They are also hired in biological and ecological research projects, where scientists and local people collaborate on population studies and species classification. At least two new species have been identified through this program.

Limited employment and control over, and access to, traditional lands are a major benefit. The community receives an annual rental fee of \$75,000 as well as 20% of the gross park entrance fees [Altman, 1989]. The Park Service also provides funds for community services and housing for the community. The government benefits from the agreement in that it retains use rights to the park, keeping access open for all residents. The government also makes a high level of revenue from the Park; in 1990-91 there were over 250,000 visitors. The lease arrangement also shows goodwill on the part of the government in dealing with aboriginal issues. The government has shown flexibility in adopting this approach to park management. It has received some criticism from people who resent aboriginal control, hunting and residence in the park. The park makes enough revenue to pay for other less popular parks. The relations between park rangers and the community are good; many rangers are learning the local language. Hiring of rangers must be approved by the local community. Uluru is considered a prestigious and challenging place to work and has been a catalyst and model for joint management throughout Australia [P. Figgis, pers com].

Interaction between the tourism industry and the community is mostly limited to local employment in low-level jobs. Tourism has also benefitted a small city outside of the park. Guard training has been undertaken to certify

guides and train them in the traditions and culture of the Anagu. The park demonstrates that involvement and power sharing are key elements that help indigenous people benefit from tourism. There have been numerous good will gestures and serious efforts at resolving existing conflicts. The mutual respect and trust the government and aborigines show each other is frequently cited as extremely important.

Belize

Country Overview

Belize, formerly known as British Honduras, is the only country in Central America where English is the official language. That, combined with its proximity to the United States and its spectacular reefs, has made it an increasingly popular tourist destination. By 1992, nearly 250,000 tourists traveled to Belize; about half of those were from Europe or North America. Estimates are that tourism generated US\$211 million in sales throughout Belize, or \$41 million in payments to households primarily as wages [Lindberg and Enriquez, 1994: 26.]

While many tourists visit Belize for resort travel, there is evidence that nature-based tourism is increasing. During the 1980s, international visitors to Belize's coastal resorts increasingly sought out alternative activities. For example, a study of tourists in 1988 found that many wanted to experience the culture and wildlife of Belize. They were primarily North American and their perceptions and expectations differed from the more traditional resort holidays desired by the Europeans interviewed [Allender, J., 1993].

The Community Baboon Sanctuary, Belize

The Community Baboon Sanctuary (CBS) is located in a rural community 33 miles northwest of Belize City. It was established in 1985 to protect the black howler monkey, *Alouatta pigra*, which was threatened due to forest habitat loss resulting from slash and burn agriculture. The project started with an expatriate and twelve landowners who concentrated on the subsistence needs and agricultural practices of farmers and small ranchers. Local landowners were asked to follow a land-use plan which

would maintain a skeletal forest from which howlers and other species could use the regenerating cut forests, while helping landowners reduce riverbank erosion and reduce cultivation fallow time. The sanctuary now includes over a hundred landowners and eight villages, encompassing forty seven square kilometers along the Belize river. The increase in the howler monkey population shows nine out of ten landowners are living up to their pledge to support the project and have adopted improved farm management practices. Since inception, visits by foreign and Belizean tourists have increased from an estimated ten to thirty visitors in 1985 to over 6,000 in 1990.

Villagers first proposed the tourism base, but given the lack of tourist amenities and resources, the potential of the area as a tourist destination seemed limited. In 1987, a small group of students arrived at Bermudian Landing to study monkeys and camped on host families properties and were provided with meals by them. This program continued for three years, and encouraged the community to diversify. Local families rent a few rooms and overnight visitors can also camp when taking meals with local families. A few tourists use local boat and horseback guides. These services are arranged through sanctuary staff.

The first Belizean manager was hired in 1987 and an operational plan was established. An assistant manager was hired later in the first year, and together the manager and assistant gave field lectures to student classes, cared for the museum (the first in Belize), performed maintenance chores, handled donations and museum sales, and hired and paid part-time workers and guides. Guided tours began in 1988, and with this sanctuary staff saw the need to regulate visitor activities, as tour leaders often took their groups through the forest trails on their own initiative. Subsequently, visitors were asked to pay a \$2.50 per person entrance fee and be accompanied by sanctuary staff. Additional donations are also accepted.

In order to have a centralized location to welcome visitors, a sanctuary museum which houses the main headquarters was constructed. This helped to formalize and consolidate the managers role, office and administrative duties. The museum has become a tourist

attraction in its own right and ethnic consciousness has increased since the opening of the museum and development of the sanctuary.

The project has had some problems. Since the manager arranged for all economic operations, this eventually led to some claims of unfairness, and jealousies developed. In response, the BAS created a managerial committee comprised of landowners from each village to oversee on-site operations and implement the sanctuary's main goals of conservation, research, and tourism. Maintaining a steady rate of tourism has been difficult, however, and there has been strong variation in the level of economic benefits received by the different villages in the area. There is now a plan to spread tourism to all the communities in the sanctuary. More effort was invested in publicizing the area than in providing infrastructure for visitor overnight accommodation. An \$11,000 grant from the Inter-American Foundation has been used for low-interest revolving loans to villagers to add bed and breakfast facilities to their homes. However, the community based nature of the project is threatened because foreign interests have attempted to capitalize on the area's success by planning to build hotels in the area.

There were approximately 3,000 visitors in 1990 who spent an estimated \$21,605 in the village. Of this, 43.2 on meals; 20.2 on accommodations; 12.3 on souvenirs; 9.8% on guiding; 8.7% was spent on transportation; and 5.7 on personal/other. Most of the money goes to between six and ten of the families in the village, but most of the money probably stays in the community through local purchases and hiring local labor. Coordination in the area has been made easier by the fact that lands were all privately owned. There was no national government involvement and government authorities became interested in the project only after the CBS was publicized and tourism began to increase.

Cockscomb Basin Wildlife Sanctuary, Belize

The Cockscomb forest reserve was established in 1984 to protect resident jaguars (*Panthera onca*) and their prey. Subsequently, the reserve was converted into a wildlife sanctuary, and by 1990 covered a total of 41,553 hectares. The

sanctuary is managed by the Belize Audubon Society (BAS), who have rapidly developed sanctuary infrastructure to support the reserve. Infrastructure includes simple accommodation for 10 people (overnight visitors pay a minimal fee, with differential rates), latrines, and a potable water system. As of January 1994, BAS did not have permission to charge entrance fees to the sanctuary. Since the sanctuary cannot charge gate or user fees, revenue generation is limited to charges for bunk rentals, camping accommodation, and on site donations. Between April 1991 and April 1993 Cockscomb received BZ\$33,651 in revenue from bunk fees, on-site donations, postcards books, and \$US 8,562 in government and international donor support.

Tourist visits to the site have increased from just 25 in 1985 to over 2,000 in 1990. Tourism at Cockscomb has caused some trail erosion, but management activities have prevented significant ecological damage from tourism. Cockscomb currently receives an average of 261 foreign visitors per month, and BAS has requested permission to charge entrance fees at Cockscomb of BZ\$10 for foreigners and BZ\$2.50 for Belizeans, although Belizean children and school groups would be allowed in for free. Lindberg's (1994) survey revealed that 77% of visitors were willing to pay BZ\$3.00 or more as an entrance fee which would cover all ecotourism-related expenditure and some traditional expenditures, fifty-eight percent were willing to pay BZ\$5.00 or more.

Mayan residents practicing slash and burn agriculture were relocated prior to the designation of Cockscomb as a sanctuary. The evicted residents were settled at Maya Center, a location 6 kilometers away from their original village and 11.3 kilometers outside the sanctuary. Initial resentment at resettlement began to improve in 1987, after a local teacher was hired as sanctuary director, and the local population gradually began to see potential economic benefits of ecotourism. Residents of Maya Center have increasingly realized economic benefits through employment as local cooks and guides. The community also benefits through sale of food, handicrafts, and other products at the village store. Given the small size of the Maya Center village, the benefits of tourism are perceived as significant, and there

is also some recognition of Cockscomb's productive, aesthetic, and educational benefits. The average of BZ\$2,336 which the families receive compares favorably with the BZ\$3,124 average per capita GDP in Belize - especially as this is a rural area and therefore below average income-generating opportunities exist. Although residents at Maya Center depend primarily on agriculture for employment, tourism provides direct economic benefit to 67% of community households.

Local women recognized the demand for tourist souvenirs. Initially, they sold handicrafts at the entry gate, but the park director and local council came up with a plan to establish a small building as a craft and souvenir center in 1988. The BAS organized several workshops to teach the local women business skills. Revenues have since increased significantly over time with profits soaring 87% in just one year, and in three and a half years, the women earned \$28,000. Fifteen to 16 women participate in the co-op and 10% of the revenue generated is earmarked to finance a new craft center building. As most of the materials they use in their craft-making are collected locally, most revenue is profit. Profits from the craft center contribute significantly to household incomes in the village, this was especially marked in 1993 when low citrus prices reduced alternative money-earning opportunities for many local people.

Two larger towns, Dangriga and Placencia benefit from Cockscomb tourism because they are the closest sites with hotels, airstrips, and other tourism infrastructure. Interviews of tourists indicated that 39% said they had come to the region specifically to visit Cockscomb (MTE, 1993). These towns are also jumping off points for the off-shore cays, thus, only a few jobs in the tourism sectors of these communities may be dependent on the sanctuary. There is local enthusiasm for expanding tourism-related activities as a result of the success of the craft center, and there are ongoing efforts to expand the handicrafts program by marketing crafts outside the craft shop in other areas of the country.

Lindberg and Enriquez's (1994) survey indicates that support for the sanctuary has increased since its establishment. In communities

receiving benefits from tourism, the increase in support appears to be due to the increase in cash benefits from tourism with little change in appreciation for traditional conservation benefits (ie. wildlife protection, water supply). However, it is interesting to note that in communities not receiving tourism benefits, support has also increased and is based on traditional benefits. This is likely due to environmental education efforts.

Costa Rica

Country Overview

Tourism has become Costa Rica's second greatest source of foreign income. In 1991, tourism generated \$336 million; by 1993 it had climbed to \$506 million [Burnie, D. 1994: 25]. By 1994, tourism has become the country's most important foreign exchange earner [Boza, 1993: 244]. Between 1991 and 1994, tourism revenue grew at an annual rate of 25%, despite the fact that the number of visitors increased at a rate of only 14.5%. The population of Costa Rica is about 3 million; nearly half a million tourists visited in 1991. Over three-quarters of all tourists to Costa Rica visit at least one park during their stay. Tourism development has benefitted all sectors of the economy. Much of the growth in tourism has been in small enterprises: 85% of the hotels have less than 50 rooms and 75% of the country's tourism enterprises are small to medium size. Moreover, at least 75% of all licensed tour agencies are owned by nationals and long-term foreign residents [Boez and Rovinshi, 1992].

The boom in tourism has been attributed to Costa Rica's international reputation for nature-oriented tourism. Thirty-five of the leading travel writers in the U.S. named Costa Rica as the number one ecotourism destination in the world.

Costa Rica has also received a tremendous amount of international support for the innovations which have taken place in the conservation arena. It is one of the primary training areas for tropical biologists; The Organization for Tropical Studies (OTS) represents a consortium of over 40 U.S. and Costa Rican universities that brings over 30,000 person-days per year of visiting researchers and students.

Costa Rica was one of the pioneers of debt-for-nature swaps and it has developed an innovative and decentralized system of protected area management. It is the home of INBio, the National Biological Institute, which is attempting to catalogue and discover the chemical properties of all life forms in the country. Yet despite its international reputation for conservation, and the obvious link between the high revenues from ecotourism and the large amount of land (about 24%) that is protected in conservation areas, ecotourism revenues are not yet generating sufficient benefits to provide significant financing for parks or to widely change destructive activities in buffer areas surrounding parks.

The reasons for this are numerous. One problem is that entry fees to parks have been so low that they contribute almost nothing to park maintenance and protection. For example, of the total \$12 million National Parks budget for 1992, only \$2.8 is provided by the Costa Rican Government, and only 0.5% of this comes from entrance fees to the parks. To remedy this, Costa Rica established a two-tiered pricing scheme and dramatically raised the entry fee of \$1.50 for foreigners to \$15.00 in September 1994. The high levels of visitation to selected parks, coupled with the visitation to parks nationwide, had completely strained the capacity of the park service. In response, the GOCR had cut park protection and services, and had threatened to close some parks, despite the fourfold increase in visitation between 1992 and 1994. Restrictions on visitation to the most visited parks was instituted since they were exceeding their carrying capacity [Ecotourism Society Newsletter, 1994]. For example, tourism to Manuel Antonio Park has been restricted to 800 visitors at any given time.

A change in policy allows regional conservation areas to retain 75 percent of the earnings from park entrance fees to fund park and regional activities [see Church and Brandon, 1995; and Umaña and Brandon, 1992]. There are also localized examples of places where local people have changed their practices. Similarly, the type of tourism and the importance of the parks were an issue during the elections in 1994. The lack of infrastructure at many of the parks has spawned the creation of

numerous private nature reserves, with both positive and negative consequences for the parks themselves.

Monteverde

Monteverde is a rural community in northern Costa Rica that is home of the most famous private reserve in the country. Drawn to Costa Rica because it had just abolished its army, Quakers settled there, bought 1,400 hectares, divided it into parcels, set aside some land for watershed protection, and converted much of the forest into pasture for dairy cows. Eventually they began a small cheese business, which was tremendously successful and led to increased growth.

Biologists began to visit the region to study some of its unique wildlife. The most famous resident of Monteverde was the golden toad, a small, shiny, golden frog [*Bufo periglenes*] found nowhere else in the world, which disappeared in the late 1980s. In 1973, private donations were used to set up the private Monteverde Cloud Forest Reserve, now operated by the Tropical Science Center in San Jose. The Reserve straddles the continental divide in the Tilaran mountains and includes seasonal rainfall on its Pacific side and a wet Atlantic side. The reserve spans six life zones, and the quetzal, bell-bird, and umbrella birds are some of the more unique inhabitants. Jaguars, ocelots, macaws, agoutis, and kinkajous roam among immense oak trees. In all, the area has about 600 tree species, 300 orchids and 200 ferns, 100 mammals, and more than 2,000 flowering plants and over 500 different types of butterflies.

The 10,500 hectare reserve is one of the most popular destinations in Costa Rica for ecotourists because of its cloud forest reserve. The number of tourists increased from about 300 in 1973 to nearly 13,000 in 1987, and by 1994, Monteverde was drawing 15,000 tourists per year. Tourism earnings are now the second largest source of income for local residents after dairy production. The increase in tourism has increased pressure on the area, especially new tourist developments such as restaurants and hotels. The area is threatened by subsistence agriculture, logging, and land speculation.

Monteverde, as a private reserve, was able to charge gate fees which until recently were higher than at the national parks. In 1994, the gate fee was approximately \$US8.00, while tour group operators paid \$US10.00 for each visitor. There is a multi-tiered user fee structure, with discounts for students, nationals, and free entrance for those under fifteen. Four-hour nature walks cost \$US24 and some proceeds go to an environmental education fund. Entrance fees are reported to have covered reserve maintenance costs for the last few years. In 1987, 68% of total reserve expenses on ecotourism were for personnel, 13% for maintenance, 15% for services, and 4% for tax and other purposes. Visitor donations have helped to maintain the reserve and buy new land [Church et al., 1994e].

The ecological impacts of tourism at Monteverde include the creation of new trails inside the reserve, for tourists and for research. There is serious erosion on the former, with nearby tree root trampling during rainy season. Locals have reported that animal habits have changed due to human activity in the reserve, with some creatures visible near trails only after the end of the tourist high season. To minimize these types of problems, entrance is now limited to one hundred visitors at a time. However, tourism has been concentrated in some sections to reduce impacts on the rest of the reserve. A recent and potentially serious problem is that the community is now reported to be experiencing water shortages, given the increased demands on a limited water supply.

There are a range of groups that work together and coordinate the community's response to tourism. The Monteverde Conservation League is most concerned with the conservation of the area and has purchased large amounts of lands for protection. They also have been involved in helping surrounding communities develop sustainable management plans for tourism. Finally, the Monteverde Conservation League has purchased land to expand the reserve and triple its size.

A woman's handicraft cooperative has benefited significantly by the tourism to the area. The Monteverde Institute is training people to set up family hotels and restaurants to benefit

from the tourist industry, in part by attracting tropical conservation students. Organizations wield a substantial amount of control over tourism, although their views aren't always representative of the entire community.

Many community residents are employed by the tourist industry, through art cooperatives, hotels, restaurants and as guides. Indirect employment includes work at the cheese factory, and agriculture for local restaurants and hotels, and a variety of local ventures, such as a butterfly farm, bed and breakfast. There is no mechanism for revenue sharing. Independent local entrepreneurs have set up the services for tourists. While a great deal of local employment results from tourism, much of it is seasonal. Furthermore, there have been cycles of "boom and bust". Revenue through an enhanced tax base has allowed for community projects, and support for community projects has also come from international NGOs.

The area has received little direct government support, apart from general services (schools, health, etc.) and the infrastructure (roads and communications) necessary to support tourism. There have been no governmental restrictions on tourism development in the region. As tourism has become more profitable, there has been an increase in the number of people from outside the community and country who are buying land and building facilities for tourists, often larger and more extravagant hotels. Regulation is generally limited to the local organizations in the community which are trying to better manage and control tourism development. Their efforts have generally been slow and have met with resistance from large hotel owners.

This case demonstrates that the creation of a private reserve can be an important force in generating tourism, especially when coupled with other attractions (e.g. dairy and cheese-making). It also points to the difference between local control over an area (the reserve), and a lack of control over private initiatives outside of the area. It highlights the different visions that can emerge about what constitutes appropriate tourism to the community. With its good business base and high

levels of nature tourism, this area offers a special potential to show that the regional conservation area system, which attempts to integrate generation of economic benefits (e.g. ecotourism) with protected areas, can be of benefit to local residents and be of value to conservation.

Ecuador

The Galapagos

The Galapagos Islands, one of the key sites which sparked Charles Darwin's thinking on The Origin of Species, has become one of the most famous nature-based tourism destinations worldwide. Today, visitors come to see the unique Galapagos tortoises, land and marine iguanas, lava lizards, flightless cormorants, penguins, albatrosses, Galapagos finches and other native species. The high percentage of endemic species make the Galapagos a unique environment important to preserve and worthy of study. Yet the geological history, low rainfall, and high endemism make the archipelago a fragile environment.

The islands were characterized by low levels of settlement until the 1950's. Recent immigration in the 1980s and 1990's has been generated by the expectation of jobs generated by the booming nature-based tourism industry [Carrasco, 1994]. In 1959, Ecuador declared 97% of the 8,000 km² archipelago a national park (all land except the inhabited areas). In 1986, the Galapagos Marine Reserve was established, which added 70,000 square kilometers of coastal and marine protected area around the Park. The first organized operations started in 1969 when Metropolitan Touring, the largest tour operator in Ecuador, began chartering a military flight to transport tourists to the islands. In 1971 the GNP formalized the conservation rules for the park and required that all visiting groups had a naturalist guide trained by the CDRS. The whole emphasis of tourism however, was to keep people off the islands as much as possible. Tour boats were supposed to provide all of the basics needed by tourists, such as lodging, food, restroom facilities, etc. The idea was that keeping tourists on the boats rather than the island would minimize their impact

on the environment and local population. The park was zoned to allow for different levels of use, including an intensive use zone where up to 90 passengers could disembark from one large tourboat and an extensive use zone, which catered to the six small boats which carried under 12 tourists each [Kenchington, 1989].

The number of visitors to the islands has tripled during the last 10 years; the international visitors increased by 91%, and the nationals by 245%! Historically, the tourism demand has surpassed every recommended visitor number limit set by the Management Plan for the islands. In 1971, on the basis of the current vessel capacity, a limit of 12,000 visitors per year was established. By 1978, this figure was exceeded. In 1987, the limit was readjusted to 30,000 but the number recorded that year was 32,500 [Kenchington 1989]. In 1993, more than 46,000 tourists visited the islands [Carrasco, 1994].

With this explosion of tourism came an unplanned expansion of infrastructure and people. In 1980, the Baltra airport was upgraded and in 1987, an airport in San Cristobal was inaugurated. A third airport will be opened soon on Isabela Island. The San Cristobal airport also allowed more nationals to visit the islands, outnumbering the international tourists for the first time. This increase in nationals was also possible due to the introduction of land-based tourism, which is cheaper.

The Park has undertaken zoning to regulate visitation and to effectively manage park resources. Guide services have been required for all visiting groups since 1971. Boat itineraries became required of all boats operating on the islands in 1993 to stop overcrowding. The Galapagos National Park counts on the guides to voluntarily report any problems to the Park. While the management plan recommends seven patrol boats to monitor activities, insufficient funds have been allocated for the maintenance and fuel costs of the Park fleet. In reality, patrolling is almost non-existent and interrupted during various economic crises. For example, no patrolling was done during 1982-1988.

The large increase in the visitation of park sites has led to a variety of environmental impacts. Erosion has taken place along sensitive trails, mostly sand trails. Plants and animals have been disturbed when guides allow their passengers to encircle animals or go off the trail to take pictures. As a result of such visitation, the quality of the tourism experience has declined as well and many tourists have lost the feeling of remoteness.

As one of the most unique nature-based tourism destinations in the world, there is no difficulty in luring people to the Galapagos. One paper notes that if annual increases in rates of tourism continue, the Galapagos can expect 82,000 visitors by 1997 [Carrasco et al, 1994]. The entrance fee to the Galapagos is a two-tiered system. In 1992, the entrance fee for Ecuadorians was 12,000 sucres (about 10 dollars) and the fee for foreigners was US \$80.00. Until recently, the money collected from tourism to the national parks, including Galapagos, was deposited in the Central Bank of Ecuador. From 1988 onward, "approximately 20% of the fees collected from visitors and for tourist patents came back to the Park Service for Galapagos" [MacFarland, 1991]. The Galapagos National Park budget has gone from four million sucres in 1980 to 190 million (approximately US \$190,000) in 1991. At the same time, the budget in 1991 was insufficient for adequate patrolling and equipment maintenance, reducing the Park's capacity to control visitors and problems generated directly from tourism. In 1993, \$2,600,000 dollars were collected from entrance fees [Carrasco, 1994].

In a 12 month period between 1990-91 alone, tourists spent approximately US\$32.6 million on air travel between mainland Ecuador and the Galapagos, park entrance fees, tours on vessels, and hotel accommodations. These tourists also spent an estimated \$27.5 million on mainland Ecuador that they would not have spent had they not visited the Galapagos. There are growing indications - such as the 1992 decision to allow large, 800 passenger, transoceanic cruise ships to visit the Galapagos only if they do so in conjunction with a visit to a mainland port - that the islands are being used as a central attraction from which to launch a nationwide initiative to promote nature-based tourism [Epler, B., 1993].

The development of tourism on the Galapagos Islands has diverged from the original concept of water-based tourism infrastructures (boats serving as hotel and restaurants) which would minimize the impact of tourists on the islands and their populations, and one airport that would channel all visitors and facilitate visitor management. Visitor control by park managers is almost non-existent, leading to the overcrowding problems which are more closely associated with mass tourism than nature tourism. Outside of the Park, there has been an incredible population explosion on the three percent of the Galapagos that is not part of the Park. Migrants have come from the mainland, lured by employment opportunities in tourism and improved access to the Galapagos. The population has increased from a few hundred in the 1940s to 6,000 in the early 1980s [Kenchington, 1989] to 9,000 in the early 1990s [Cepeda et al., 1991] and about 12,000 in 1994 [Carrasco, 1994]. Forty percent of the employed population were directly employed in tourism-related activities in hotels, as tourists guides, in restaurants, or other activities [Carrasco, 1994].

Recent tensions in the Galapagos over lobster fishing, sea cucumber harvesting and shark fishing have led to substantial conflict. Park personnel have been taken as hostages, dogs have been set loose on some islands, tortoises have been killed, and fires have been started. Despite the fact that tourism provides a substantial source of revenue, the Government has shown minimal political will to limit development and growth on the Galapagos or to halt illegal harvesting of marine resources. There is also little evidence that the recent immigrants to the Galapagos, despite the high rates of employment in tourism-based sectors, have any interest in the long-term survival of the park or its wildlife resources. Unfortunately, the Galapagos, oft cited as the best example of revenue from ecotourism, is instead a clear example of political inaction and regional land/water use conflicts.

Capirona

Capirona is an indigenous Quichua community with about 24 families that has developed its own small scale tourism industry based on the community's needs. The community is an hours drive from the town of Tena in Eastern

Ecuador. Many of the town's residents had experience as guides and cooks working in a nearby town that catered to ecotourists visiting Ecuador's rain forests. In 1989, they decided to create a small tourist industry using their own resources.

The community felt that tourism could be a viable economic and culturally sensitive alternative - if they controlled and managed the project themselves. They decided that for tourism to work, the entire community would have to benefit. They built a palm thatched guest house along a scenic river near the village center where tourists can stay for two to six days.

Locals are employed as guides showing tourists the native uses of forest plants and animals, about the reality and challenges of their daily life. Visitors sometimes join in communal work parties. Through a program of cultural exchange, the people of Capirona share their traditions and also learn about the experiences and life of their visitors. Capirona has purposely focused their efforts on small-scale tourism that complements their daily activities.

Most of the community hunt and fish and raise their own food in garden clearings where they grow some cash crops. Tourism provides additional income for those working as guides and cooks, and provides revenues for the community (school projects and health care delivery). Marketing is through word of mouth and guests are often scheduled through the offices of regional and national Indian organizations and a few travel agents based in Quito. Such organizations have been vital to the development of the project. For example, the Federation of Indian Organizations of the Napo (FOIN), the Regional Indian Federation, helped train community members to take care of visitors, and manage and administer a small business. Through FOIN, an Indian botanist assisted the Capirona residents to mark out trails and label trees with scientific, Spanish and Indian names. Residents of Capirona are now assisting surrounding Indian communities to start similar projects and coordinate planning with them to distribute guests in different areas.

The community controls all phases of tourism. They conceived of and created the industry themselves and the community makes all decisions about how tourism is organized and managed. There is no government support, involvement or regulation of any part of the project. The entire "industry" is community owned and operated. The jobs created by the project, such as the guides, cooks, etc. are supplementary income that people are not dependent upon. Benefits go to workers as pay and revenue from accommodations goes to the entire community which decides upon the use of profits for community projects.

Capirona offers an example of how a community with little capital can get involved in ecotourism by themselves with minimal impact and total control over resources. Tourism was set up by the community to diversify the local economic base and minimize economic risk. The community feels that if they are unhappy with tourism, they can return to agriculture. If they are happy with the benefits, then they can continue or expand it.

The number of visitors grew from fewer than 12 people a year in 1989 to 300 by 1994. Local people also feel that they have truly bettered their own situation through their own initiative, which is a source of pride, as well as an important factor in protecting their own culture. The Capirona case shows the importance of indigenous organizations which can provide logistical support training, and technical assistance. Finally, it is a good example of the demonstration effect, where people in one community decide to copy the practices they view in another. Clearly, a regional system of tourism, coordinated through a regional Indian organizations, would be more profitable and marketable than isolated tourism in one community.

Indonesia

Country Overview

Indonesia ranks second to Brazil among the world's megadiversity countries. Despite this, a great deal of tourism to Indonesia is for local cultures and sun and beaches. In order to

diversify the tourism base from its present focus on "sun and sea" and cultural tourism, the government is currently promoting nature-based and ecotourism. One aspect of this policy is to direct tourism away from Bali to other parts of the archipelago. It appears that these policies are starting to take hold. For example, visitation to Komodo National Park, the home of the Komodo dragon, increased from 3,400 visitors from 1978-1988, to more than that amount in just one year: 4,900 in 1989. In the first six months of 1990, visitation reached 9,100 people [Campbell, D., 1994].

Siberut, Indonesia

The island of Siberut, off the western coast of Sumatra, is the largest in the chain of Mentawai Islands. It offers an example of the desire to use ecotourism benefits as a way of compensating local people for restrictions on use of protected areas. It is also an example of the Indonesian government's effort to encourage alternative forms of tourism development.

What is now Taitai Batti National Park on Siberut first was established in 1980 as a wildlife reserve. Because the island has been separated from Sumatra for half a million years, there is a high degree of endemism: over 60 percent of the wildlife and 15% of plants are endemic. The creation of the Taitai Batti National Park, with a protected area of 146,000 ha., means that some activities currently practiced by local people will be illegal. Therefore, studies have been undertaken to determine if ecotourism could provide people with some compensation for the economic losses they will incur from reduced use of the park area and provide financing for the park.

Current tourism to Siberut is cultural – not due to the biological diversity. Virtually all of the 2200 tourists who visited the island in 1994 were drawn by guidebooks or tours which talk about the unique Mentawian culture. Native Mentawians have a high reliance on the plants and animals found on Siberut. The population of Siberut is about 24,000 people, largely located on the island's coastal fringe where they were reluctantly resettled.

Surveys of tourists to Siberut indicated that:

- over 90% of the visitors to Siberut are under age 34;
- 95% are interested in learning more about the wildlife;
- 95% would like to have a guide;
- over half knew about the existence of the Park;
- tourists spend an average of \$16.37 per day, and stay one week.

The majority of visitors to Siberut (85%) are taken there by Sumatran-based tour companies. Leakages are high; 84% of the gross from tour costs leaves the island. Tourism to Siberut has been estimated to increase at five percent per year. Ecotourism to the park has been proposed as a way to generate revenue for the park and provide local people with income that will offset any economic losses they incur from the establishment of the park. There is a sense at the same time that it is unfair that the people who must put up with tourists retain only 9% of tourist expenditures.

There are three proposals currently pending to generate benefits from tourists. The first is to collect gate fees to Taitai Batti park and use those to promote local welfare. The second is to organize a local guide service. This would provide direct employment for residents, enhance the cultural experience for visitors and increase their potential to learn about the island's flora and fauna. The final proposal is to directly charge the tourists a fee upon arrival in Siberut. While the money would not be directly generated because of the park, it could be used to support sustainable livelihood activities. Tourists to Siberut were interviewed and said that they would be willing to pay a small amount of money if they could be certain that the money would benefit the community and was controlled by the community. Willingness to pay surveys set the amount at \$8.67 per person. Funds from this could be used to support activities linking conservation and development. Neither of these activities are yet underway, but this is an interesting example of using cultural tourism to support local community development linked to biodiversity conservation.

Tangkoko DuaSaudara Nature Reserve

Kinnaird and O'Brien (1996) have provided one of the best studies on the impacts of ecotourism to a protected area, by analyzing the ecotourism industry, the impacts of ecotourism on wildlife, and the distribution of ecotourism expenditures to Tangkoko DuaSaudara Nature Reserve (TDNR), a 8800 ha. lowland rain forest located in North Sulawesi. The reserve has both high levels of biodiversity and endemism, and is noteworthy for its highly visible primate and birds. The reserve meets several of the criteria for successful ecotourism; in particular, it is close to the provincial capital and has easy wildlife viewing.

Indonesian federal law prohibits tourism to nature reserves. In practice, tourism to TDNR has been promoted by the provincial government. Foreign tourism to the reserve increased from 50 people per year in the late 1970s, to 634 in 1990, to 1515 in 1993. Domestic visitation is approximately 300 visitors per year. Visitors reported high levels of satisfaction with wildlife viewing; however they expressed dissatisfaction with the reserve management, citing uncontrolled hunting, forest fires, litter, and lack of tourism management as problems. Visitors also would have appreciated greater information and better guide training.

Lack of organization of tourism has led to negative impacts on wildlife. Macaque populations have been negatively affected by tourism and have reduced the time spent feeding and foraging. It appears that tarsiers are also adversely affected through reduced opportunities for early evening foraging.

The majority of revenue stays in the provincial capital. Three lodges concentrated in one village, all owned by reserve guards, provide the only real benefit to any of the many villages which surround the reserve. Reserve guards act as guides — local villagers also act as guides if there are no guards available. Some villagers receive income by renting boats to visitors. Therefore, the only local people receiving any regular benefits are reserve guards. The reserve retains virtually none of the profits from tourism; 2% of the total trip cost is collected by the reserve administration,

which is returned to the North Sulawesi Government. This funding is inadequate to control illegal hunting, which has reduced the macaque population in the reserve by 75% in the past 15 years. Even though guards benefit from the extra money they receive from ecotourists for providing guide services, this has not been a sufficient incentive to control hunting; indeed, time spent on guiding visitors is time away from protection duties.

There has been no development of management plans to control, manage, or receive benefits from tourism. Kinnaird and O'Brien (1996) conclude that "although tourism is expanding rapidly, local benefits are not fully realized, the reserve does not generate enough money to implement management, and primate behavior is being affected."

Nepal

Country Overview

Nepal's tourism industry is the country's second largest foreign-exchange earner, bringing in over \$100 million in 1990 [Sherpa, M.N. 1993]. Now, even more effort is being made to promote the country as a back-to-nature family experience. There are over 100 agencies offering a variety of packages. Adventure tourism could also help open up the rugged remoteness of western Nepal, which at present is practically cut off from the rest of the country because of a lack of roads and communication facilities [Suraiya, Jug, 1990]. Approximately 20% of visitors to Nepal visited protected areas, resulting in over 100,000 visits to parks, or estimated expenditures equivalent to \$8.9 million dollars [Wells, M., 1992:3].

Despite the fact that adventure and nature-based tourism are one of the major components of tourism to Nepal, until recently, none of the revenue from user fees was returned to the Department of National Parks and Wildlife Conservation (DNPWC). The Department, with few operating funds, also had little effective management capacity, limited policy instructions, and lacked coordination with other agencies and local communities. However, the Army received over 70% of the park budget for park protection.

Even though the carrying capacity of many of Nepal's parks has been exceeded, the DNPWC cannot legally regulate the numbers of tourists entering parks. Permits for trekking within protected areas are issued by the Department of Immigration. Except for the Annapurna Conservation Area, there is no authority for any of the tourism or park agencies to work with local communities. Overall, there has been little realization that any national strategy is needed which balances nature-oriented tourism, foreign exchange earnings, and park protection [Wells, 1992:17-18]. However, a 1993 legislative change known as the Buffer Zone Management Act, allows the distribution of from 30 to 50 percent of park and protected area revenues to surrounding communities [Sowers et. al., 1994a].

Annapurna Conservation Area Project (ACAP)

The 7,683 km² Annapurna Conservation Area is one of the most geographically and culturally diverse conservation areas in the world. About 118,000 people, mostly poor rural farmers, live in the region. Over 45,000 foreign trekkers visit each year, which has led to the development of hundreds of lodges and tea shops along the trails. While tourism has become important to the local economy, it has also led to serious environmental problems. Forests have been cleared to provide fuel for cooking and heat for visitors. Expanding agriculture, water pollution, poor sanitation and litter on trekking routes have all accelerated, compounded by a rapid growth in the resident population.

Improving tourist development while safeguarding the environment was the focus of a royal directive in 1985. Lobbying from The King Mahendra Trust for Nature Conservation (KMTNC), a Nepali NGO, resulted in new legislation creating the Annapurna Conservation Area in 1986 (gazetted in 1992), a multiple use area allowing hunting, collection of forest products, use of visitor fees for local development and the delegation of management authority to the village level. The Annapurna Conservation Area Project (ACAP) was initiated to help the inhabitants maintain control over their environment.

Permissible land uses and the degree of protection were established through a zoning system. Nepali staff, including many local staff were recruited and a headquarters was established in the intensive use zone. Community development, forest management, conservation education, and research and training activities were started. High priority was given to reducing the environmental impact of trekkers and increasing the local economic benefits from tourism. ACAP has provided expertise, but not financing, for lodgeowners to install 'back boilers', which heat recycled water during cooking to further conserve energy, and solar panels. Lodgeowners have also contributed to the cost of trail upgrading and maintenance. A hotel management committee has set prices and basic standards for hotels, which assures the tourist of certain standards in all lodges in the region. They also offer training for lodgeowners in a range of topics, such as finance and cooking for tourists.

The project has made significant progress in motivating a skeptical local population to participate in natural resource management decision-making, although local institutions are not expected to assume major responsibility for several years. The kerosene regulation has substantially reduced deforestation rates and training programs have reduced the adverse impacts of tourism and improved the livelihoods of lodgeowners. ACAP has also set up an artisans cooperative. However the significant local economic benefits from tourism have not been distributed widely, either among or within villages. In the villages on the major trekking routes, about 100-150 families owning tea shops or lodges have experienced significant increases in income during the last decade. Economic impacts do not appear to spread far beyond these families into the local economy. The value of the economic benefits being accumulated by lodgeowners has not been estimated but is clearly considerable by local standards, and has dramatically increased the average per capita income. The use to which this surplus is being put has not been monitored. Some lodge owners have bought land in the nearest town, Pokhara, while others send their children to be educated at better schools in larger towns.

Some employment has been generated on community development projects (ACAPs philosophy is that outsiders are only hired if skills aren't locally available). Employment outside of lodges or tea shops appears to be very limited and, with the notable exception of some seasonal vegetables, the majority of supplies are purchased from Pokhara, many originating from outside Nepal. Employment for porters has increased, since all goods must be back-packed. However, there appears to be very little 'trickle down' economic growth taking place locally.

An entry fee to the Annapurna Conservation Area has been collected from tourists since 1989. The price of the entry fee, as well as its value, has fluctuated with exchange rates; from the equivalent of about \$US 8 in 1989, it dropped to \$US4 in 1984 and was increased to US\$13 in 1996, with government approval. Revenues in 1994 were equivalent to an annual rate of 4 million NR (\$US 160,000); this is equal to half the revenues from all of the trekking permits issued in Nepal or over 40% of the revenues from all of the national parks put together [Wells, 1993]. The revenues collected pass directly to ACAP. External funds for the project have been less than \$500,000 for the first four years.

The community benefits from increased control over tourism and revenue generation for community development projects such as bridge and trail repair, agricultural extension, and women's programs. Community health and sanitation benefits include health clinics, mobile vaccinations and health education, latrines and rubbish pit construction, and improved water supply. Area committees monitor and help manage environmental resources and environmental education and tourism education programs are included in the schools and elsewhere. The role of the tourism industry is fairly diffuse and difficult to ascertain because it is run on a regional level by ACAP. There is little involvement with the Nepal tourist industry, except through regulations such as designated camp sites, and the minimal impact code.

ACAP demonstrates that NGO-government partnerships can be used to effectively manage culturally and environmentally sensitive areas.

It demonstrates that where large-scale tourism is practiced, user fees can be an important source of revenue for community projects.

Air/Teneré National Nature Reserve, Niger

[The events described in this case are no longer accurate; the area has been plagued by civil unrest and general banditry. Tourism is no longer viable in the area due to the lack of security and many of the conservation and development activities described herein have slowed or stopped. A decision was made to include this case because it provides a forceful example of how any ecotourism initiative is highly subject to external factors. Tourism is expected to quickly establish itself as a major opportunity when peace is restored.]

Niger is among the hottest and driest countries in the world. As little as 12 percent of the land mass of Niger, almost all of it located in the extreme south of the country, is even marginally suitable for crop production. The southern regions contain the bulk of the country's population of approximately seven million, while the majority of Niger's 1,267,000 square kilometers are either unpopulated or extremely sparsely populated. Temperatures in this desert half of the country range from 0 to 50 degrees Centigrade.

The Air Mountains of Northern Niger cover an area of 65,000 square kilometers. This mountain range begins just north of Agadez—a city marking the southern border of the Sahara Desert—and continues for over 400 kilometers further north. Carved out of these two regions is the Air/Teneré National Nature Reserve. The desert environment predominant in the northern half of Niger is incapable of supporting more than the sparsest of populations, whether plant, animal or human. Animal populations are uniquely well adapted to life in the desert; notable among these animal populations are the addax, dama and dorcas gazelles, Barbary sheep and ostrich. These animals, in common with all desert life forms, are dependent on the short but dramatic rainy season that replenishes the vegetation growing in strips defined by the stream beds or valleys that are dry except during brief flash floods occurring after a violent rain. Though rare and

erratic, such rains maintain a sub-surface water table that supports animal and vegetable life and, remarkably, allows for year-round irrigated gardening at the only two permanent human settlements within the reserve.

The Air/Tenere has suffered from recurring drought since the late 1960's. There have been three threats to wildlife in recent years: 1) natural habitat destruction from drought compounded by human activities such as livestock grazing; 2) soldiers engaged in military exercises in northern Niger venture into the Air to shoot game for sport or for meat; 3) European and North American tourists who tour the desert in all-terrain vehicles. The tourists are unaware of desert animal physiology and chase animals to the point of collapse and death.

The Air/Tenere National Nature Reserve Project was conceived to protect, conserve and study the endangered wildlife of Northern Niger. Although the project boundaries define an area roughly the size of Scotland, the human population totals only 4,500. The philosophy was to integrate indigenous populations into the project's design and implementation. The local population are the Twareg, a desert-dwelling people of Berber descent. Slightly over one-half of the population is settled in the 2 villages in which the major agricultural activities are irrigated gardening and the raising of livestock. The Twareg respect wildlife and other natural resources: "the general attitude to wildlife is one of benevolence." The Air/Tenere is not a case in which the local population is hunting its game to extinction.

Legislation passed in 1988 created two types of reserves, a partial game reserve, and inside of it, a total game reserve, known as the Addax sanctuary. No entry is allowed into the Addax sanctuary without high-level authorization. Also expressly forbidden are agricultural or pastoral activities, forest exploitation, or passage over the reserve in a low-flying airplane. The boundaries of this restricted area were set so that they do not interfere with traditional caravan routes which pass through the surrounding partial game reserve. It is unlikely that the creation of this total reserve

presents an inconvenience to anyone, with the possible exception of tourists and some poachers.

The decree creating the Air/Tenere National Nature Reserve was designed to promote the continued and rational use of natural resources by indigenous populations. Resident populations are expressly assured the right to continued residence, as well as the right to move freely throughout the reserve area. Customary resource use rights are also assured, in particular: 1) the gathering of deadwood; 2) the harvesting of fruits and saps; 3) the use of forage resources; and 4) the use of plants for food or medicine.

The primary prohibitions to be enforced within the partial game reserve are: 1) hunting or the bearing of firearms within the reserve; 2) needlessly damaging the trees and bushes of the reserve, especially the eight species listed as protected; 3) tourists not holding a valid touring permit or unaccompanied by a recognized guide. The development of a locally based tourist industry is recognized by the project as a potentially important long-term development strategy which, if properly controlled, may be made to be compatible with conservation objectives. The wildlife of the Air/Tenere is a primary attraction for tourists and, therefore, an economically important asset. The project is promoting increased local participation in the tourist industry which is currently dominated by tour operators located in Agadez, about 300 kilometers to the south of the reserve. A specific benefit of the development of a local tourist industry would be employment for guides and artisans. The project has cooperated with local artisans in establishing an artisan center where local arts and crafts may be displayed and sold.

Tourist activities into the reserve are monitored (and, probably, modified) by the legally required presence of guides. The publicity surrounding the project, the legal prohibitions against hunting, and the enforcement activities of project staff have largely eliminated poaching in the area. A network of village representatives has been set up to establish links between project objectives and the needs and participation of local populations. Other activities started have been: research activities on wild-

life; reforestation; reducing soil erosion; water control and management; introduction of new building techniques; promotion of fuel-efficient cooking stoves; improved well construction techniques. The development of a tourist industry that benefits the local population could conceivably create a link between conservation and development that is not currently obvious. The project is working toward such future developments, but has faced substantial uncertainty due to political and safety concerns.

Bwindi Impenetrable Forest Conservation Project

Bwindi Impenetrable Forest is a new park that attained full national park status in 1991. About half (300) of the remaining population of mountain gorillas are found in Bwindi, the other half are found in the three parks that incorporate most of the Virunga volcano range which traces the borders of Uganda, Rwanda and Zaire. The three parks that support gorillas are Mgahinga Gorilla National Park, Uganda, Parc National des Volcans, Rwanda and Parc National de Virunga, Zaire. The Uganda National Parks (UNP), in conjunction with the International Gorilla Conservation Programme (IGCP, a consortium of AWF, WWF & FFPS) developed a plan to establish ecologically sound tourism while creating a source of revenue through gorilla viewing.

Bwindi is a small park of 330 square kilometers, with an additional 70 acres recently purchased to provide sites for tourism infrastructure and a buffer zone. The park has a research center and guard houses. Plans include building a visitor center, park office, staff housing and tourist accommodation. With the rapid increase in demand, tourist accommodation is a priority. Currently, there is a community camping ground owned and operated by local residents directly outside the park gates.

Two of the four groups of gorillas in the area are habituated for viewing. Only six tourists are allowed to view each habituated gorilla group (total of 12 visitors) for a maximum of one hour. A day of tracking costs around \$145.

Visitation and gorilla tracking are running at nearly 100% of capacity. At current rates (75% non-resident and 25% lower resident fees) total revenue brought in by gorilla tourism is about US\$ 400,000 per year. Bwindi has the highest revenue earnings of any park in Uganda. The park is able to fund most of its own recurrent costs as well as contributing to operations of the 10 other national parks in Uganda. The success has many tour operators lobbying for more gorilla permits to be made available by habituating a third group. This would increase revenue but also increase risk to the gorillas and surrounding habitat. Even though Bwindi is earning well in excess of its costs, this money is not retained locally. Permits are purchased in Kampala and administered through Uganda National Parks (UNP) which is a tedious process. In current national guidelines 12% of the UNP revenue is available for revenue sharing. From combined entry, guide, gorilla and accommodation revenues in UNPs 10% went to local communities and 2% to district level administration in 1995 [Christine Feral, pers. comm.]. In addition, 20% of gorilla tourism revenue accrued since June, 1994, has been shared with local parishes.

Long-term financing for both Bwindi and Mgahinga Parks has been assured through the establishment of a trust fund, in 1995, with initial financing of \$4 million by the Global Environment Facility and USAID. The trust fund designates annual net income to park management (20%), research (20%) and community development which is compatible with conservation (60%). The Trust's management includes representatives of the Ugandan government, local and international NGOs, and local communities. Fifty parishes touching the park boundary have committees to develop proposals for community projects.

This community parish system provided useful information to authorities in their investigation of the recent killing of gorillas in the park [Christine Feral, pers. comm.]. It is yet unclear how these killings relate, if at all, to the gorilla tourism/conservation program. It only indicates that more needs to be learned about the motives behind the gorilla killings before conclusions about the successfulness of the conservation project can be drawn.

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