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Government and Community-based Ecotourism in Costa Rica, Brazil and Ecuador

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## Abstract

### Government and Community-based Ecotourism in Costa Rica, Brazil and Ecuador By Chelsea L. Magnant

This paper explores the relationship between government and community-based ecotourism and the effect of each on conservation goals. Using government and community-initiated cases from Costa Rica, Brazil and Ecuador, this study examines ecotourism sites with varying degrees of government-community collaboration. Data was collected from several scholarly studies, publications from NGOs, special reports and site-specific sources. This study concludes that collaboration between the government and community at a fairly high level is best for conservation success in ecotourism ventures. When there is no partnership, communities alone are more successful in conservation attempts than their government counterparts.

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## **Introduction**

Since the early 1980s, the concept of sustainable development has been defined as a strategy for promoting economic growth while conserving cultures and biological resources (UNEP: 8-10). During the 1980s, the economies of many developing countries became stagnant, and while millions were living in poverty, governments found themselves unable to cope with the pressure put on their cities and infrastructure. In response, a series of meetings were held and reports were written that emphasized the relationship between the environment and growth (8-10) as developing countries felt pressure to put growth over environmental goals when choosing courses of development. These initial steps led to an eventual world-wide engagement with sustainable development that influences economic and policy decisions even today.

In light of this seemingly incompatible relationship between the environment and growth, ecotourism emerged as a popular and successful method of implementing sustainable development, especially in developing countries. The traditional concept of tourism has, in some cases, been associated with overdevelopment, pollution and exploitation of local populations, both economically and culturally (Honey 2008: 10). It is, however, very lucrative, especially as the income and leisure time of those in developed countries continue to grow. Because of its economic appeal, travel and tourism is the world's biggest industry, and is continually growing. In fact, "world tourism grew by 260% between 1970 and 1990" (Brandon, 1996, 3) and 1995 estimates placed revenue from tourism and travel at \$3.4 trillion, or 10.9% of the world's GDP.

Like conventional tourism, ecotourism has proved to be enormously lucrative for many countries and communities. Because ecotourism has become so profitable, many



companies market resorts or excursions with an “eco” or “green” label in an attempt to obtain some of the market share. However, true ecotourism is more than tourism in a natural setting, which is frequently what these “ecotourism lite” companies provide (Honey, 2008, 46). Ecotourism, on the other hand, is often used as a strategy to capture some of the revenue that is generated through conventional tourism while attempting to avoid many of the problems associated with it. Ecotourism also intends to “support conservation of natural resources while, at the same time, promoting local sustainable development” (Ross and Wall, 1999, 123). For the purposes of this study, I intend to focus on ecotourism under a specific definition related to these goals: according to the International Ecotourism Society, “ecotourism is about uniting conservation, communities, and sustainable travel.”

Many countries in Latin America have successfully used this definition of ecotourism to promote economic growth and have become partially reliant on ecotourism as a source of revenue. Because Latin America as a region is composed of nations at different levels of development, countries have been able to use ecotourism to bring economic prosperity to traditionally poor regions and populations. Moreover, ecotourism has been frequently used in Latin America to help maintain biodiversity and rainforests, as well as indigenous cultures in some cases. International pressure appears to have played a part in ecotourism initiation as environmental and cultural enthusiasts have been concerned with deforestation, loss of biodiversity, and disappearances of indigenous cultures. As a region, Latin America contains many cases of ecotourism, and two – Costa Rica and Brazil – will be the focus of this paper.

In this paper, I seek to understand the relationship between government and community-initiated ecotourism and the effect of each on conservation goals. In exploring this topic through qualitative analysis, I hope to determine if the following question is true: *does the initiation of ecotourism by either the government or a community have an effect on the fulfillment of conservation efforts?* To fully explore this topic, it is necessary to highlight the research of other scholars of ecotourism, specifically the reasons behind ecotourism initiation and the reasons why governments initiate versus communities as governments and communities typically have very different reasons for adopting ecotourism practices. For example, the Costa Rican government's entry into the ecotourism market was prompted by their growing concern about deforestation and other types of environmental degradation (Honey, 2008). On the other hand, various communities, such as the Silves Association for Environmental and Cultural preservation highlighted in the Brazilian case study, adopt ecotourism because they are concerned about their livelihoods and home environment. The community or government strategies' have different weaknesses and strengths in terms of protecting the environment. I believe that these differences could account for differences in the effectiveness or success of conservation efforts.

Based on the existing theories behind environmental conservation and ecotourism adoption, I will use qualitative research to explore three different case studies: Costa Rica, Brazil, and Ecuador's Galápagos Islands. These cases will serve to illustrate the theories of previous scholars highlighted in the literature review, as well as serve as examples for my own qualitative comparison and subsequent conclusions about ecotourism adoption. While my paper focuses on ecotourism adoption in Latin America,

it is my belief that the results could be generalized to other areas. And I believe my results will supplement the existing ecotourism literature.

## Chapter I: Background and Literature Review

### Motivations behind Ecotourism Adoption

Participation in ecotourism can manifest itself in a number of ways, and there are many reasons why countries and communities engage in ecotourism. Based on the literature, it appears that there are three general reasons why countries choose to initiate ecotourism: economic incentives, environmental conservation, and cultural policies, that aims to protect indigenous cultures. While decisions are usually based on a combination of these reasons and a number of factors that are country specific, there is often one primary, underlying reason that influences a country or community to choose ecotourism.

Economic interests are a frequently cited reason as to why countries and communities engage in ecotourism, and the specific reasons for its implementation vary. For many countries, ecotourism can be a part of a “national development strategy, provide foreign exchange, employment, economic diversification, and growth” (Brandon, 1996, ii). The revenue gained from ecotourism can also allow countries more money to put toward conservation efforts. For example, a 1998 study by Chase, Lee, Schulze and Anderson discusses the use of entrance fees to national ecotourism parks as a means of generating income. The article notes that in developing countries, government funds are often not available to be put toward environmental uses. Without monetary incentives, governments would have to designate land for more

profitable and less environmentally friendly opportunities. These fees allow governments to make a profit, which is subsequently used for national park services.

Similarly, Sven Wunder's article (1999) about ecotourism and the environment stresses the importance of economic incentives in conservation efforts. Wunder focuses on economic incentives and profits for the community, i.e. the local population that is engaged in or affected by ecotourism. Wunder uses cases from Ecuadorian ecotourism sites to prove his hypothesis that implementation and effectiveness are primarily based on the prospects for profitability.

In addition to increased funds for conservation efforts, capital generated from ecotourism can be used for "community projects such as school construction and health clinics" (Brandon, 1996, ii). Communities also frequently benefit economically by the increased number of jobs that are created by ecotourism. Moreover, the resorts, parks and other ecotourism ventures can produce greater revenue for a community, as well as infrastructure, e.g. roads and electricity.

Environmental conservation, especially biodiversity conservation, is another reason why ecotourism policies are frequently adopted. According to an article by Holtz and Edwards in Fennell in the anthology *Ecotourism Policy and Planning* (2003), governments and the private sector look to contribute to biodiversity conservation with their choice to adopt ecotourism policies. On the other hand, Agnes Kiss (2004) highlights the popularity of using ecotourism as a way to protect biodiversity in community-based efforts. Kiss argues that conservation organizations work with communities to fund ecotourism initiatives so that the protected land will not be used for other, environmentally destructive uses, such as agriculture (233).

This focus on biodiversity is particularly important in Latin America because of the diverse flora and fauna found in almost every Latin American country. Because many of these plants and animals are native to Latin America's tropical forests, rainforest conservation is equally important. Rainforest conservation through ecotourism gained this important role as many scientists and environmental activists became worried that Latin American rainforests were being destroyed because of "illegal logging, ranching, oil drilling, mining, and human settlement" (Honey, 2008, 14).

An important aspect of the conservation component of ecotourism is the fact that many tourists become advocates for the areas they visited. While this applies to both foreign and domestic tourists, the effects are particularly important for domestic tourists who may be much more capable of affecting change as they are closer to the ecotourism site. Today, many ecotourists are middle-aged men and women from the United States, Western Europe and Japan. These populations tend to have more disposable income and leisure time that allows them to take vacations. Ecotourism sites have also been marketing to students, backpackers and singles who are looking for a different experience (Brandon, 1996, 4). Catering to these populations has increased ecotourism's popularity and revenue in recent years.

Because so many foreign tourists travel to ecotourism sites, the ecotourism industry can help raise awareness of conservation issues in both the local population and tourists, one of ecotourism's primary goals. According to Brandon (1996), ecotourists, both foreign and domestic, are more likely to donate money to organizations that attempt to protect the area they visited or conservation efforts in general. They are also more willing to donate time toward the causes that the ecotourism sites promote. For example,

an ecotourist may be willing to lobby the government “for or against policies or activities which threaten the areas they have visited” (12). Ecotourists may also be willing to give supplies to organizations that support conservation attempts, as well as joining the organizations themselves. Lastly, these ecotourists may also advocate the location to their friends and family, which can help generate more revenue for the site and issue as well as more knowledge about the conservation efforts happening in that area.

Cultural conservation also plays a role in decisions about ecotourism initiation. Many ecotourism sites are also home to indigenous cultures, and the protection of the land also provides some protection for the indigenous culture. Frequently these efforts to protect indigenous cultures and lifestyles are spearheaded by the indigenous communities themselves. An example can be found in McAlpin’s (2008) case study about indigenous-led ecotourism in Chile. While the park in the study primarily exists for economic gains, the money generated from the park is used to preserve the culture of the indigenous living in the park and the park itself. Indigenous ecotourism is also prevalent in Ecuador, Perú, Bolivia and Brazil, as well as several other Latin American countries (Zeppel, 2006, 69-105).

### **Alternative for Ecotourism: Government and Community-based**

Related to the economic, cultural and conservation-related reasons behind ecotourism implementation are the different groups and institutions that are responsible for its initiation. Government-led ecotourism is a good example. According to the article by Hall in *Ecotourism Policy and Planning* (2003), government decisions regarding ecotourism come from government employees and bureaucrats, as well as lobbyists and

community leaders. Hall acknowledges that the government, unlike other sponsors of ecotourism, is aware of international laws and moral obligations. Although there are very few effective ways to enforce these laws, they are a significant reason behind government adoption of ecotourism policies and practices. Wearing and Neil (1999), on the other hand, state that governments frequently adopt ecotourism as a development policy because it generates money through foreign exchange, and creates possibilities for regional growth and creation of jobs. The authors recognize that government-initiated ecotourism efforts are more effective in long-term planning and management, as well as broad standards that minimize undesired impacts in the ecotourism industry (21-4). Thus, it appears that governments are more likely to be the initiators of ecotourism when ecotourism is a good option for growth on a national level, and when the government has an interest in creating lasting environmental policies.

Communities are also frequently responsible for the adoption of ecotourism policies and practice, and community-based ecotourism is often initiated either through the local population or indigenous groups. While governments and communities can work together in pursuit of growth, governments sometimes fail to provide adequate development opportunities or simply choose not to engage in the development process. Edward Jackiewicz posits that when governments are not engaged in the development process, community-based initiatives are sometimes organized to fill the vacuum. Using a Costa Rican ecotourism case to illustrate his point, Jackiewicz explains that if communities do not take responsibility for their own development in the absence of state involvement, the communities will be subject to the decisions of “international elites”, whose motives are not the protection of cultures (139).



Community-initiated ecotourism frequently occurs when indigenous populations are responsible for the ecotourism site. Some of these indigenous groups seek help from the government or non-governmental organizations (McAlpin, 2007, 53). Many maintain full or partial ownership of ecotourism sites in an effort to preserve their culture. In recent years, indigenous community-based ecotourism has become particularly popular in Latin America as many indigenous communities have remained relatively untouched by society.

### **Variation in Ecotourism Success**

In addition to the widely acknowledged benefits of ecotourism, there are negative aspects as well. If not properly managed, ecotourism can lead to environmental degradation and pollution as ecotourism frequently results in a higher density of people due to the influx of tourists. Second, while many tourists from higher-income countries with more disposable income visit ecotourism sites in developing countries, these countries and communities may not be able to receive much economic gain from the visitors because companies from developed countries often own ecotourism components. For example, airlines that fly tourists to sites are almost always based in developed countries and controlled by other interests. Depending on the way the ecotourism sites are set up in a particular community or area, developed countries may own the hotel chains where tourists stay. In some cases, citizens from developed countries become tour guides (Brandon, 1996, 5), which takes jobs away from local citizens. In addition to revenue going back to the developed countries, the ecotourism industry can suffer economic losses, which can result in less money being designated for environmental protection

(Wen and Tisdell, 2001, 165-166). Each of these outcomes can have a significant impact on whether an ecotourism venture is deemed successful in conservation efforts.

Success in ecotourism ventures varies from country to country. Perhaps the most well-known, successful example of ecotourism is Costa Rica. However, Costa Rica's success has certainly not been reproduced in every country. The factors that lead to success or failure are often beyond the control of those in charge of the various components or sectors of ecotourism and tourists. First, political factors, especially ethnic conflict, can play a large role in the success of ecotourism. Various countries throughout the world, including Guatemala and Haiti, have had severe drops in ecotourism because of unrest. The rise of terrorism on airlines can also hurt ecotourism revenue as tourists are unwilling to travel and risk the danger (Brandon, 1996, 5).

Social factors, primarily knowledge or concerns about health or safety issues, can also play a part ecotourism's success. In her 1996 study, *Ecotourism and conservation: a review of key issues*, Katrina Brandon notes that bad press about certain countries can deter tourists from visiting; for example, tourism in Kenya and Thailand has dropped because of fears about AIDS. Lack of knowledge about an area can have similar effects (6).

Economic factors, such as exchange rates, can affect a country's success with ecotourism in a number of ways depending on the economy of that particular country, as well as the economies of tourists' home countries. If their home country is in a recession, for example, tourists may choose not to travel or to vacation closer to home.

Environmental factors can affect countries in similar ways; if there is a disaster or pollution in an ecotourism location, travelers may choose another destination. Seasonal

issues, such as weather or school holidays, can affect the length and frequency of tourists' visits. Finally, technological factors are important as countries with phone and internet access may be more desirable for certain tourists. Having these amenities is particularly helpful for tourists who need help with last minute changes or itinerary planning (6).

## Chapter II: Research Design

In order to determine variance in conservation success and motivations for initiating ecotourism, I will use qualitative methods of analysis. For the purposes of my study, qualitative methods are a better fit because of the amount of data available, as well as the complexity of comparing conservation success. This can be measured in a number of different ways.

Consistent with the definition and principles of ecotourism provided by the International Ecotourism Society, I primarily base my measure of success on the following conditions:

- Minimize impact
- Build environmental and cultural awareness and respect.
- Provide positive experiences for both visitors and hosts.
- Provide direct financial benefits for conservation.
- Provide financial benefits and empowerment for local people.
- Raise sensitivity to host countries' political, environmental, and social climate.

For the two primary cases of this paper, Brazil and Costa Rica, I first looked into the history of ecotourism and conservation efforts in the country in order to provide context for the reader. I then selected two sub-cases, one community-based and one governmental, for further examination. The comparison of the government- and community-initiated ecotourism sites provides not only a closer look at the relationship between government- and community-initiated ecotourism, but also the ecotourism factors specific to that particular country. The comparison of countries provides an understanding of whether the successes are common or if they are unique to the situation in a particular country.

### **Independent Variable – Initiator of Ecotourism**

For the purposes of this paper, the “initiator” of ecotourism is can be classified in three different ways. As previously mentioned, many ecotourism ventures involve a partnership between the government and community. In many cases, there is one primary initiator who is responsible for most of the maintenance of the project or site. However, there are some cases in which both parties are vital to the success of the ecotourism venture. Thus, the three categories of my independent variable, initiator of ecotourism, are: the government, community (groups that unite for a common goal), and a more or less equal partnership between the two.

### **Dependent Variable – Conservation Success**

In determining whether the conservation efforts of a community could be considered “successful,” I used the following criteria. These are based on the more tangible definitions and principles of ecotourism as explained by the International Ecotourism Society.

- *Minimize impact* – In order to determine if the ecotourism site had minimized impact, I looked at the following: overcrowding in the park, noted tourist impact on the environment, and noted tourist impact on the wildlife (if applicable). If there was a tourist impact on the environment, the site clearly was not minimizing its impact on its surroundings. The same is true for tourist impact on wildlife. I further specified *if applicable* as most of the case studies did not discuss this unless the site was specifically designed to protect an

endangered species or other type of animal, e.g. Projeto TAMAR-IBAMA. Overcrowding was added as another variable to possibly explain future damage to the park. As is evidenced by the Galápagos Islands case, overcrowding can be significant cause of environmental degradation even if scientists and researchers have not yet quantified it in a particular location. Moreover, as ecotourism's popularity keeps growing, those sites that are able to control the flow of visitors seem more likely to be successful in future conservation efforts.

- *Build environmental and cultural awareness and respect* – In defining this variable, I looked at both the education for tourists and the education for the local population. These two conditions frame ways to observe and quantify this variable given their prevalence and emphasis in conservation literature as well as ecotourism case studies.
- *Provide direct financial benefits for conservation* – This variable needed no further breakdown because case studies generally noted if money earned through ecotourism sites were put toward conservation. This variable is important to conservation success because without funding, conservation efforts would often not be possible.
- *Sustaining for the local community* – Like the variable above, financial benefits needed no further breakdown. This variable was necessary to include as local people are needed to keep advancing the ecotourism efforts, especially in community-initiated ventures. Typically, if ecotourism is not

sustaining for the community, residents will turn to other ways of making money that can be harmful for the environment.

## Hypotheses

After conducting the literature review, I formulated the hypothesis that community-based ecotourism ventures would be more successful than their government-based counterparts. This was primarily based on my assumption that those involved in community-based ecotourism projects would have a more vested interest in the successes and failures of their venture as those outcomes are often linked to their livelihood.

As many governments and communities frequently work together in establishing ecotourism sites, I hypothesized that these relationships would lead to success in ecotourism. In fact, it is my contention that ventures that involve a relatively even contribution of effort from both parties will be more successful than ventures that primarily involve the efforts of just the community or government.

**Table 1: Predicted Ecotourism Success**

Initiator	Primarily Government (Very Little Community Input)	Primarily Community (Very Little Government Input)	Government-Community Partnership
Success in Ecotourism	Least Successful	Moderately Successful	Most Successful

## Case Selection

I chose to use ecotourism sites in Brazil and Costa Rica because both countries have special factors that draw tourists to the ecotourism destinations. In Costa Rica, the jungles and beaches, as well as the relatively stable economic and political climates are attractive to tourists. Like Costa Rica, Brazil also has a relatively stable economy and political situation. Brazil's primary ecotourism attraction is the Amazon rainforest, especially now that tourists are worried about deforestation. Moreover, both countries actively promote biodiversity. Many tourists, scientists and scholars flock to these two countries to enjoy and observe the plants and animals, especially those that are endangered.

The difference in ecotourism history between these two countries could be interesting for policy implications. Costa Rica, for example has a very well established ecotourism certification program, as well as a long history of successful ecotourism implementation. Brazil, on the other hand, has been successful but is much earlier in its ecotourism development stages. If certain trends were successful in Costa Rica and have begun to be implemented in Brazil, perhaps Brazilian government or community leaders could use those lessons to improve Brazilian ecotourism.

Within each country, I chose a government- and a community-based sub-case based on the focus of their efforts. Each of these projects was primarily concerned with the conservation of either animal life or the local environment. While most of them had secondary goals, i.e. maintaining economic security for local residents, measuring conservation efforts was easier in sites that recognized conservation as their primary goal.



Second, each of these ecotourism ventures had a permanent location and established facilities. This ensured that tours, which are frequently run by international companies, were not included in my search. Moreover, each ecotourism site seemed to be better able to monitor and promote conservation if there were fixed facilities and boundaries.

In addition to the permanent location and conservation-focused criteria already mentioned, the selected sub-cases represent the ecotourism conditions designated by the International Ecotourism Society. Cases were selected according to these guidelines in order to inhibit bias. However, some bias may have been introduced given the thin literature on many ecotourism sites. Scholars often write about ventures that are either very successful or unsuccessfully to highlight various points about the nature of ecotourism. The bias, if any, in case selection stems from having to choose cases on which there is a lot of information. In short, leaving out sites that are not salient in the literature may mean that a counter-factual case was overlooked.

My third case, the Galápagos Islands off the coast of Ecuador, was selected after doing the initial round of research for the literature review and discovering that most ecotourism locations involve efforts of both governments and the community. Although one of these groups is usually always the initiator and responsible for the success of the ecotourism site, it is clear that they have an effect on each other. I chose the Galápagos Islands as my third case because unlike the other cases it is unique, with very little of a government-community partnership.

### Chapter III: Costa Rica

For some time, Costa Rica has been seen as the poster child for ecotourism, demonstrating to the world that a balance between profit and environmental protection can be achieved. When Christopher Columbus first arrived in present-day Limón, he named the area Costa Rica as he falsely believed that there was a great quantity of precious minerals in the region (Honey, 2008). Despite its lack of gold and silver, Costa Rica can certainly be described as the “rich coast” due to its abundance of flora and fauna, as well as a vibrant culture and history. While Costa Rica’s land mass only totals 0.035 percent of the earth’s surface, the country contains roughly 5 percent of the earth’s biodiversity. A diverse array of plants, animals and other natural sights has attracted hundreds of thousands, making Costa Rica a top ecotourism destination.

In addition to the plethora of natural wonders, Costa Rica has many qualities that make it an ideal place for ecotourism. Unlike other developing countries with similar environmental attractions, Costa Rica is a politically stable, well-functioning democracy. The government maintains respect for human rights and tends to have a very welcoming attitude toward foreigners. These conditions, along with a moderate standard of living and high-quality education and medical care systems, have attracted a large group of scientists and conservationists looking to work in Costa Rica’s unique environment. In addition, more than a hundred NGOs, both local and domestic, have branches and representatives in Costa Rica (Honey, 2008). Moreover, the country’s close proximity to the United States made travel easy for Americans with disposable income. The combination of all these conditions means that Costa Rica has become one of the world’s most successful ecotourism locations.

## Background

Costa Rica's interest in conservation first began in the 1960s and 70s as it began to suffer from grave environmental issues. Beginning in the 1950s, Costa Rica became one of the most deforested countries in the world. In order to determine the extent of the damage, several organizations conducted studies using satellite imagery and aerial photography. While these studies all came up with different figures, the overall record indicates that the rate of deforestation in 1950 was approximately 46,500 ha/year, while deforestation rates in 1997 had dropped to approximately 16,000 ha/year (de Camino et al., 2000). Progressive government incentives encouraged reforestation, which amounted to approximately 140,000 ha between 1979 and 1997 (pp. 6). For example, researchers estimate that between the early 1970s and the early 1990s, the rate of deforestation advanced at approximately 3.7 percent (Sánchez-Azofeifa et al., 2003).

In order to combat its environmental problems, the Costa Rican government began to request aid from international organizations. Their first grant came from the *World Wildlife Fund* in 1972. Since that initial grant, the Costa Rican government has procured approximately \$70 million in international assistance for conservation (Boza, 1993). In order to best use the funds, the government took several crucial steps. First, they created a National Parks Fund, which falls under the National Park Service, to save revenue earned from park entry fees and services. This would prevent park profits from going toward the general national budget and ensure that they would be used for future conservation efforts. Second, several environmental conservation NGOs, e.g. the National Parks Foundation, were created so that the bureaucratic government regulations

and procedures that govern the way donated funds are received and used could be avoided. Third, an initial national park, Poás Volcano National Park, was established as a model, and new facilities were built to attract visitors and additional funding. Lastly, a method of debt-for-nature swaps<sup>1</sup> was established (Boza, 1993).

It was also during the 1970s that the Costa Rican government began to push for support from both domestic and international sources. Continuing to use the establishment of national parks as their goal and selling point, the government sought assistance from a variety of sources, but continued to recognize the importance of support from the general public and organized groups. Among other groups, the Biologists' Association, the National Teachers' Association, and the Students' Federation of the University of Costa Rica aided in conservation efforts. The Costa Rican government also brought in scientists and other reputable figures who could promote their ideas of conservation. And, important political figures, both domestic<sup>2</sup> and international<sup>3</sup>, joined the cause.

Along with the outside support, the government continued to push the conservation movement at home. Conservation education programs were created that primarily affected high school and college students. For example, in the late 1970s, an Environmental Education program was created at the State Open University. Those behind the national parks movement wrote many articles for the press that stressed the

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<sup>1</sup> Debt-for-nature swaps are a method by which conservation organizations can earn money. First, the organizations purchase commercial debt from a bank for less than its face value. The debt is then converted into local currency through a deal with the country's central bank. Because the debt is worth less than its face value, the central bank is able to offer certificates or fixed-term bonds in return. The high interest rate of the bonds, approximately 24%, combined with the discounts creates funds usually two to four times greater than the original amount invested (Boza 1993).

<sup>2</sup> Former First Lady Karen Olsen (1970-1974) became an important champion. Mario Boza, refers to her as the "fairy godmother of conservation."

<sup>3</sup> European royalty – Prince Bernard of Holland and Prince Philip of England – joined the Costa Rican conservation movement as well.

importance of national parks. According to Mario Boza (1993), former vice-minister of MIRENEM (*Ministerio de Recursos Naturales, Energía y Minas*) and a key actor in the formation of the Costa Rican national parks system, these conservation articles were popular as many newspapers include science sections. In addition to the articles, many tourism and nature education materials were published that resulted not only in increased national and international attention, but an increase in pride in Costa Rican national heritage as well.

Costa Rica's entry into the ecotourism market began in the mid-1980s, not long after the crucial years of the national parks movement and amid concerns about deforestation and other forms of environmental degradation. It seems that both environmental threats and the push for greater conservation efforts created a strong, environmentally-friendly climate that allowed the ecotourism movement to truly take off. Similar to its approach to deforestation, the Costa Rican government provided incentives and began to invest seriously in tourism. This heavy emphasis on tourism changed the tourism demographic substantially. Prior to the government's initiatives, the majority of tourists visiting Costa Rica's attractions were either domestic or from other Central American countries. During the mid-1980s, the proportion of domestic and Central American tourists decreased, while the number of tourists from North America, primarily the United States, and Europe increased (Honey, 2008).

Along with the increase in North American and European tourists came a drastic increase in the amount assistance that Costa Rica received, especially from the World Bank, the U.S. Agency for International Development (USAID), and the International Monetary Fund (IMF). While the money came with many stipulations, the additional

capital helped Costa Rica gain more investment from the United States. One of these stipulations was an agreement that the government would cut some funding for national parks and the Costa Rican Tourism Institute (ICT) (pp. 162).

Despite the cuts in funding, the Costa Rican government was able to devise other ways of promoting conservation. Perhaps the most important milestone in Costa Rica's development into a successful international ecotourism destination was the law passed in 1984 that provides incentives for various travel industries, such as travel agencies, hotels, transportation companies, and car rental agencies. The Tourism Development Incentives Law was passed in 1985 and provided tax breaks and additional incentives from the ICT .

These laws led to wave of foreign investment in tourism during the 1980s. By the early 1990s, tourism had surpassed all of Costa Rica's exports, including bananas and coffee, to become the number-one source of foreign capital.

### **Ecotourism Today**

Because of Costa Rica's early and powerful conservation efforts, approximately 25 percent of its land has been protected in some capacity to avoid environmental degradation caused both directly and indirectly by people. Approximately 27 percent of Costa Rica "is designated as a national park, biological reserve, wildlife refuge or some other category of protected area, both private and public" (Costa Rica Tourism). These early conservation efforts also provided a blueprint that subsequent ecotourism efforts built on. Like the national park system, Costa Rica's ecotourism efforts have gained national and international support, generated conservation education programs, and resulted in progressive environmental policies.

Conservation education programs are common in many ecotourism sites, as well as through outside sources. The Latin American University of Science and Technology, for example, started a Master's program in ecotourism in 1989 (Boza, 1993). In two of the four public universities, students can major in forestry and complete courses on wetland management.

Today, tourism is responsible for approximately 20 percent of Costa Rica's foreign exchange earnings and approximately seven percent of its GDP. However, ecotourism alone does not account for these figures. Along with its policy of pursuing environmentally friendly tourism ventures, Costa Rica has also chosen to develop large international hotels and resorts to accommodate the influx.

## **Ecotourism Sites**

### Tortuguero National Park

The Tortuguero National Park was established in 1970-1971 in response to the environmental degradation affecting Costa Rica. The park is located in the province of Limón on the Caribbean Coast. Approximately 50 miles north from the Port of Limón, the park protects 35 km of turtle nesting beaches and 18,946 ha of swamp forests (Jacobson and Lopez, 2004). Along with Poas Volcano, Cahuita, and Santa Rosa National Parks, Tortuguero was one of the first national parks created by the Costa Rican government. Because most of the government's initial efforts were met with indifference, this first round of national parks was meant to prove to the country that the parks were worth the funds and resources required to establish a strong national park system (Boza, 1993).

The establishment of Tortuguero National Park was particularly important as it is a critical site for conservation of the green turtle (*Chelonia mydas*) and the most critical beach for this species in the western Caribbean (Boza, 1993). Since its discovery in 1592, the green turtles of Tortuguero (and worldwide), have been exploited for their meat, eggs, shell, and other parts (Jacobson and Lopez, 1994). Tortuguero's swamps and tropical rainforests are also home to over 2,600 species of plants (Koens et al., 2009), as well as a variety of other animals. In addition to the green turtle, the area is home to four other types of endangered turtles, 55 species of fish, 140 species of mammals, and approximately 350 species of birds (Boza and Mendoza, 1981). The area's natural beauty and exotic wildlife are its only real attraction.

Because of Tortuguero's remoteness, as well as its lack of traditional tourist activities, the park has managed to keep the number of annual visitors relatively low. Nature lovers are the primary visitors to the park, and the vast majority of these visitors stay only one night. However, overall interest in the park has steadily risen since the early 1980s, which has increased the park's visitors exponentially. For example, the number of visitors to Tortuguero National Park increased 24-fold between the early 1980s and early 1990s (Jacobson and Lopez, 1994). Despite the increased interest and ecotourism's economic dominance in the Tortuguero village, infrastructure has not been able to keep up with high growth. Like many of Costa Rica's parks, Tortuguero National Park lacks basic tourism necessities such as trained tour guides, visitor centers, and interpretive information (Jacobson and Lopez, 1994).



Asociación Comunal para el Manejo Forestal (ASCOMAFOR)

Unlike Tortuguero National Park, the *Asociación Comunal para el Manejo Forestal* (Association for the Conservation and Management of Forest Areas – ASCOMAFOR) is a community-based ecotourism project located in the interior province of Alajuela. In 2001, this association was established by the communities of Quebrada Grande, Santa Elena, Garabito and San Marcos as a means of stimulating “communal development and forest projection in the rural-mixed tropical lowlands” (Koens et al., 2009). By joining forces, these relatively small communities are able to increase publicity and visibility and allow themselves great access to resources (Jackiewicz, 2006). Pulling together for publicity and resources, each community is responsible for providing tourists with facilities (Koens et al., 2009).

Each year the communities host 850 tourists that live with Costa Rican families and participate in various ecological, cultural, and horticultural programs. The majority of these tourists are young people (ages 11-18). A Costa Rican women’s organization also started capitalizing on the success of ASCOMAFOR by transforming parts of their homes into facilities for independent visitors. Their venture appears to be quite successful as they had 218 visitors in 2004. Almost all visitors to the ASCOMAFOR communities are foreigners (Koens et al., 2009).

## Chapter IV: Brazil

Brazil is the largest country in South America and the fifth largest in the world, covering an area of approximately 3.3 million square miles. Due in part to its large size, Brazil is home to numerous types of plants, animals, climates, terrains, and ecosystems. Among other impressive natural wonders, Brazil contains the Amazon Rain Forest, Atlantic Rain Forest, the Pantanal wetlands, and the Fernando de Noronha archipelago.

In addition to unique flora, fauna and ecosystems, Brazil is home to a large population of some 190 million and a relatively strong economy. However, despite its standing as a growing economic power, Brazil has often struggled with maintaining strong regional development in all areas of the country, as well as decreasing the inequality and unequal income distribution amongst its citizens. One lingering issue that prevents various regions from experiencing financial growth is the volatile nature of some agricultural products. The Brazilian government has also tried to emphasize cattle farming as a means of supporting rural Brazilians, but these efforts had no long-term financial success (Repetto and Gillis, 1988).

These qualities, as well as a vibrant culture, make Brazil a great place for ecotourism. Tourists have the chance to explore a number of different places and see an array of incredible sights. Moreover, ecotourism offers Brazilians an alternative to unpredictable agricultural markets and unsuccessful cattle farming, especially as the upkeep of both industries can result in harm to the environment.

## **Background**

Like Costa Rica, Brazil's environmental movement began in the 1970s amid a series of environmental problems, most of which were caused by Brazil's economic growth. Unlike Costa Rica, during the first fifteen years of policy growth and awareness, the environmental movement in Brazil was more or less a series of grassroots efforts with ineffective popular support (Viola, 1997). At that point, most of the views on tourism, both in Brazil and throughout the world, were that it was a positive thing: good for development and economic growth. Relatively little notice was taken to the numerous species becoming endangered or the harm done to fragile ecosystems.

During the mid-1980s, the environmental movement grew as people throughout Brazil and the Southern Hemisphere began to question the relationship between social equity and economic growth. At this time, environmentalists began to connect with the people instead of remaining relatively isolated. As they emphasized discourse about environmental issues, people became more aware of human rights and social equity: environmental groups began having discussions with environmental activists, and various grassroots movements gained support from environmental groups (Viola, 1997).

Despite these advances, the radical language used by the environmentalists kept the movement from effecting change in political problems. Moreover, environmentalists at the time refused to discuss environmental issues with economists as they believed there was a contradiction between the two. Thus, they did not support some advances that have had a great environmental impact, such as the production of ethanol from sugarcane.

Throughout this period, the Brazilian government took steps toward conservation, although many were not very effective. In 1974, the Special Secretariat of the

Environment (SEMA) was created under the Ministry of the Interior. However, because of the military that held power from 1964 to 1985, SEMA kept a low profile and made very few advances. Despite the overall lack of significant legislation or action, SEMA had a considerable role in the approval of the National Environmental Protection Act (NEPA) that was passed in 1981. The passage of NEPA essentially prompted the creation of the Federal Council of Environmental Quality (CONAMA) in 1985. CONAMA “has normative powers with relation to environmental issues and is composed of representatives of federal agencies, state agencies, and the public (including representatives of environmental NGOs)” (Viola, 1997).

When the military regime ended and José Sarney took office in 1985, SEMA assumed a much more proactive role, especially as concern over the environment grew. Once CONAMA was created, important decisions were made that greatly impacted the future of the Brazilian environment. For instance, CONAMA passed a resolution that required that new projects<sup>4</sup> produce an assessment of the environmental impact of the proposed project.

By the end of the 1980s, Brazil was seen by many in North America as a leader in global warming. Criticism only increased when Chico Mendes, an environmental leader and rubber tapper, was murdered in December 1988. The Brazilian government was thought to be responsible for this, and there was an extreme backlash against the Sarney administration. In response, the Sarney administration created the Institute for the Environment and Natural Resources (IBAMA), which is a combination of SEMA and other government agencies that dealt with environmental issues, such as forests and

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<sup>4</sup> The projects included mostly infrastructure, such as roads, airports, industries, etc.

fishing. The creation of IBAMA marked the first time the union of environmental protection and the conservation of natural resources under one government agency.

During the early 1990s, environmentalism in Brazil was like a roller coaster. Depending on the environmental minister at the time, the environmental movement was either very strong or weak. Moreover, financial troubles in 1991 cut the budget of the Secretariat of the Environment by half. However, these issues began to be reversed as Brazilians were bombarded with pro-environment information as the Rio Conference approached. The Rio Conference itself marked a shift in Brazilian environmental policy as Brazil signed on to various treaties and adopted more responsible environmental policies.

### **Ecotourism Today**

Unfortunately, many tourism ventures in Brazil today have misused the ecotourism label to make a profit from almost any activity or location that puts tourists in contact with nature. This includes shopping centers and bars that are situated in nature reserves, as well as huge hotels that do little or nothing to help the environment or the local population. Moreover, many tour operators use the ecotourism label but their ventures do not benefit the local population<sup>5</sup> or local conservation efforts (Pearson and Beletsky, 2005).

Despite its troubled relationship with the environment, the Brazilian government is making efforts to increase environmental protection. For example, Brazil created three new protected areas in the Amazon in 2008. Combined, those protected areas 26,532

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<sup>5</sup> Many of these tour operators are actually from larger cities or other countries, which is where the revenue from these tours goes.

square kilometers of protected forests (Ministry of External Relations, 2008). These steps are positive and could lead to further ecotourism growth as interest in Brazilian ecotourism, as well as international funding, has increased exponentially. However, environmental awareness and protection is still relatively low. If tourism and industry aren't closely monitored, there could be an increase in traditional, uncontrolled tourism, which could result in serious environmental problems for Brazil (WWF International, 2001).

## **Ecotourism Sites**

### The Brazilian Sea Turtle Conservation Program (TAMAR)

The Brazilian Sea Turtle Conservation Program (TAMAR) was established in 1980 as a joint venture between the non-governmental organization *Fundação Pró-TAMAR* and the Brazilian government's Institute for Renewable Resources (IBAMA). Like Tortuguero National Park in Costa Rica, TAMAR helps protect sea turtles through ecotourism. However, unlike the rest of the ecotourism sites discussed, TAMAR covers a much greater area: TAMAR spans nine Brazilian states, supervises 1,100 kilometers of beach, and maintains 22 research stations (Stronza and Pêgas, 2008).

When Projeto TAMAR-IBAMA was first established, the goal was "to quantify the number of species, distribution and abundance of sea turtles, the seasonality and geographic range of egg-laying, and the primary threats to turtle survival" (Marcovaldi and Marcovaldi, 1999). At that point, little to no research had been published on sea turtles in Brazil. In fact, some official sources on the northern coastline assumed there were no sea turtles in Brazil at all. However, information on sea turtles was gathered

from international literature that led to a comprehensive survey<sup>6</sup> of the Brazilian coast that took place from 1980-1981.

When TAMAR opened its first research station in 1982, the operation was little more than a few marine tanks. However, within a few years, TAMAR was able to open a profitable visitor center that now hosts approximately 600,000 visitors a year. The national headquarters of TAMAR are located in a fishing village of approximately 2,000 residents called Praia do Forte.

### Silves Association for Environmental and Cultural Preservation (ASPAC)

The Amazon Rain Forest, arguably Brazil's most famous natural wonder, continually appears in the news amid stories of climate change, deforestation and other environmental dilemmas. Officially known as the Legal Amazon, its total area of approximately 5 million square kilometers is more than half of Brazil's total territory. In addition to being home to one of the world's largest examples of biodiversity<sup>7</sup> and many atmosphere-regulating forests, the Brazilian Amazon is extremely important to the South American water supply as "nearly one third of the world's fresh water cycles through its river system" (Soavinski).

A large portion of that fresh water flows around Silves Island: a *várzea*<sup>8</sup> formed by the five tributaries of the Amazon River – the Urubu, Itabani, and Sanabani rivers and the Açu and Ponta Grossa creeks. Silves Island and the surrounding area are home to more than thirty riverside communities. These communities survive primarily on fishing

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<sup>6</sup> Respondents were asked questions about their personal sea turtle sightings. In addition, surveyors used proof of turtle existence and sightings, such as turtle shells in homes, to supplement the interview data.

<sup>7</sup> Current estimates of number of species living in the Amazon range between 800,000 and 30 million (Pearson and Beletsky, 2005).

<sup>8</sup> A *várzea* is an area of forest that becomes flooded for approximately half of a given calendar year.

and farming, and many people are dependent on these waters for their livelihood. However, since the 1980s, local fisherman and other residents have been battling the depletion of the fish stocks caused by large-scale industrial fishing. The fish taken from the lakes that form during the rainy season and the surrounding rivers are sold for high prices in the nearby cities of Manaus and Belém de Pará. This has caused the fish stocks to reach critically low levels, which has had a great socioeconomic impact on the residents of the area. The livelihoods of the locals are further threatened by the spread of cattle ranching because it often requires the surrounding forests to be cut down or burned to allow more room for cattle.

Facing hunger and financial woes, a group of fisherman banded together and formed the *Associação de Silves pela Preservação Ambiental e Cultural* (Silves Association for Environmental and Cultural Preservation – ASPAC). With the help of the Brazilian government, the World Wildlife Fund for Nature, and the Catholic Church, ASPAC was able to become the first community-based ecotourism site in the Amazon. In 1996, Silves created an ecolodge, the Aldeia dos Lagos Hotel, which is run by local residents. This ecolodge essentially funds the management of the reserve as 20% of the lodge's net profits are put entirely toward organization (Denman, 2001).



## Chapter V: Galápagos Islands

### Background

Located approximately 600 miles off the coast of Ecuador and totaling approximately 800,000 hectares, or about two million acres<sup>9</sup>, the Galápagos Islands are internationally recognized for their fascinating and unique ecosystem. Perhaps best known as the site of Charles Darwin's famous discoveries, the Galápagos Islands are home to a large variety of rare plant and animal species that thrive in their isolated location. Every year the islands attract domestic and international tourists who are not only interested in the beautiful climate and scenery, but also the opportunity to view much of the islands' wildlife without the cages and other restrictions they'd find in a zoo or animal park. Some animals, such as the blue-footed booby, flightless cormorant, the waved albatross and Darwin's finches, are very unique (Honey, 2008) and are therefore unlikely to be found outside of their natural habitat.

The Galápagos Islands are known for more than their rich animal and plant life: the islands are frequently cited as being the original ecotourism location. This early focus on conservation is understandable as the flora and fauna were frequently threatened by human activity. As early as the 1700s, pirates began trekking to the islands looking for gold and other treasures. During the late 1800s, many of the animal and plant species were threatened due to increased human activity, especially in the waters surrounding the islands. Many sea animal populations, especially tortoises, were severely reduced as whalers and fur traders frequently caught and killed a variety of sea creatures in an attempt to sell animal products for a profit (Galápagos Conservation Trust, 2008).

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<sup>9</sup> Most of their total area is composed of five islands: San Cristóbal, Santiago, Isabela, Santa Cruz, and Floreana. There are several smaller islands that form the rest of the archipelago.

Despite the lack of suitable soil for agriculture, efforts were made at farming and agriculture along with the increased whaling and fur trapping. Sugar plantations were founded on the islands of Floreana and San Cristóbal with convicts as laborers, but these efforts ended relatively quickly<sup>10</sup>. During this period, many invasive species, including goats, pigs, and rats, were introduced that threatened the native plants and animals. After the failed plantation attempts through the early 1900s, there were very few visitors and even fewer settlers (Southgate and Whitaker, 1994). Gradually, as more people began settling in the islands, conservation policies and practices were adopted which reversed many of the destructive practices (Honey, 2008).

In 1935<sup>11</sup>, the Ecuadorian government announced that several unpopulated islands would become protected areas. Legislation was passed that protected wildlife on the islands. Despite the advancements, the legislation was not enforced and few other conservation efforts were undertaken until the 1950s when the International Union for the Conservation of Nature (IUCN) and the United Nations Educational, Scientific and Cultural Organization (UNESCO) recommended that the majority of undeveloped land be set aside for scientific study and conservation. The two groups also recommended that an international science station be established in order to study the islands' wildlife. In 1959<sup>12</sup>, Ecuador restricted human habitation to only three percent of the islands, primarily where people's homes and families were already established. The other ninety-seven percent would become national parks. While these actions were a significant step forward in Ecuador's conservation history, unfortunately, more than twenty native

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<sup>10</sup> These efforts ended several years later when the laborers rebelled and killed the plantation managers.

<sup>11</sup> This date marked the centennial date of Darwin's visit to the Galápagos Islands.

<sup>12</sup> This year was chosen to commemorate the centennial anniversary of the publication of Darwin's *Origin of Species*.

species and subspecies of animals and plants had already become extinct since people first arrived in the Galápagos Islands (Honey, 2008).

The conservation efforts continued from the 1960s through the 1990s as various legislation and laws were passed in an attempt to protect the islands' dwindling plant and animal species. In 1979, the islands were named a UNESCO World Heritage Site, and in 1986, the Ecuadorian government designated a large portion of ocean a marine reserve (124). This marine reserve was established in order to protect the islands, as well as a fifteen nautical mile zone of water around the islands. In 1998, this area was extended to cover all of the water within forty miles of the islands' coasts. Because of this, the protected marine area totals 53,200 square miles and was named a UNESCO World Heritage site in 2001.

Special steps were also taken to better care for the wildlife and habitats on land. In order to care for the islands' wildlife and natural habitats, management plans were developed. The first of these plans was created in 1974 and established an annual limit of visitors – at a somewhat arbitrary cap of 12,000 (Norris, 1994). However, tourism increased during the late 1970s and early 1980s, which resulted in debates about whether the limit should be reevaluated. After several years of discussion, the president of Ecuador established a commission to discuss the guidelines and recommend changes. The commission reviewed the capacity of the Galápagos Park Services, as well as the estimates for the number of people who were able to use the transportation available at that time. When the master plan for tourism in the Galápagos was revised in 1985, the commission's recommendation of 25,000 visitors per year was adopted.

Still, the new master plan for visitation was not adopted until 1991. In the meantime, tourism drastically increased as a second airport was built, the number of lodging locations doubled, and the capacity for visitors on tourist boats more than doubled. Because economic issues arose and the proposed tourist cap was exceeded, the ability of the Galápagos Park Service to monitor and manage tourists deteriorated.

### **Ecotourism**

In 1969, the *Lina A*, a cruise ship jointly owned by two Ecuadorian companies and an American company, arrived in the Galápagos Islands. Although the boat held only fifty-eight passengers, its voyage to the islands marked the official beginning of ecotourism in the Galápagos. The three companies that owned *Lina A*, *Metropolitan Touring* and *Turismundial* of Ecuador and *Lindblad Travel* of New York, had worked closely with the newly developed park service prior to the ships arrival in the islands. Before the ship docked, the tourists were given information about how they were to act and treat the environment around them upon arrival.

Between the creation of the *Lina A* and 1974, growth in the tourism sector was slow; there were only thirteen cruise ships, a few hotels and a few restaurants in operation. However, as previously discussed, the tourism industry experienced significant growth beginning in the mid 1970s. The increased number of tourists resulted in an increase in tourism operations, i.e. cruise ships, hotels and restaurants were built to take advantage of that (Honey, 2008).

## The Galápagos Islands Today

Despite the efforts of the United Nations, various NGOs, and the Ecuadorian government, the Galápagos Islands' fragile ecosystems continue to be threatened. Because the biodiversity of the island was isolated for so long, it is highly susceptible to outside forces. According to Honey (2008), "introduced species, overharvesting of limited resources, natural and manmade disasters, and climate change" have all negatively affected and continue to threaten the native plants and animals. In 2007, UNESCO named the Galápagos a 'World Heritage Site in Danger.' Among other forms of economic growth and unregulated development that also threaten the islands' biodiversity, the growth of tourism was mentioned as UNESCO's report as a cause of environmental degradation.

The islands of the Galápagos are still regulated by management plans similar to the one first adopted in 1974. For instance, three separate but related management plans exist: terrestrial management, marine management, and tourism management. These management plans have created a zoning system for tourists based on a variety of factors, including accessibility, scenery, recreational activities and presence of wildlife. And yet, the number of tourists allowed on the islands today far exceeds the original limits.

**Table 2: Growth of Tourism in the Galápagos Islands (1980-2006)**

Year	Total Number of Tourists	Percent Increase
1985	18,000	
1990	41,000	Approximately 130%
2000	68,000	Approximately 65%
2006	145,000	Approximately 113%

The data above, adapted from Honey 2008 (pp. 127), illustrates the tremendous growth in Galápagos tourism. Around 1985, the number of tourists visiting the Galápagos Islands was around 17,500. By 2000, the numbers had reached approximately 68,000 annually. In 2006, there were approximately 145,000 visitors to the Galápagos Islands (Honey, 2008).

The flow of tourists to and from the Galápagos Islands is still heavily monitored and regulated by the Ecuadorian government, which has resulted in overall conservation success for the park. Although the annual number of allowed visitors to the islands frequently exceeds the limit, there is very strict supervision once tourists are on the island. For example, in order to combat the overcrowding which has been a cause of environmental degradation on the islands, tourists coming in boats must strictly follow their assigned itinerary and stay in their designated tour area. Designating tour areas for visitors helps disperse visitors, and it encourages tourists to visit sites that are less popular and therefore less vulnerable. In addition to these measures, the number of sites has been limited, which has resulted in a very nature-oriented experience for the tourist as well as a low impact on the fragile environment.

Aside from the negative environmental impacts directly caused by tourists, there have been additional negative environmental effects caused by humans. Between the early 1990s and early 2000s, the population of the Galápagos Islands more than doubled. Most new residents migrate from the Ecuadorian mainland, presumably to either study the unique ecosystems or to benefit from the great influx of tourists. When these migrants reach the Galápagos Islands, they bring with them foreign plant and animal species. Introducing these foreign species can be very detrimental to the islands' natural habitats,

especially as the number of foreign species continues to increase. Between 1971 and 2003, the number of foreign species living in the islands more than tripled (Taylor et al, 2003).

**Table 3: Summary of Results**

Site	Government vs. Community	Over-crowding	Education for Tourists	Education for Local Community	Sustaining for local community	(Negative) Tourist Impact on the Environment	(Negative) Tourist Impact on Wildlife (if applicable)	Financial Benefits for Conservation
Tortuguero	Government	No	Yes	Yes*	Yes*	No*	Yes	No*
ASCOMAFOR	Community	No	Yes	Yes	Yes*	No	N/A	Yes
TAMAR	Government	No	Yes	Yes	Yes	No	No	Yes
Silves	Community	No	Yes	Yes	Yes	No*	No	Yes
Galápagos	Government	Yes	Yes*	N/A	Yes*	Yes	Yes*	Yes*

\* indicates that the “yes” or “no” designation is generally true but with some caveats that are discussed in the results section.



## Chapter VI: Discussion of Hypothesis and Results

In order to present my results in the most clear and efficient manner, I have organized them by ecotourism site (in order of presentation in the above body of this paper). Each specific site includes discussion on each of the variables that measure conservation success. Impacts on wildlife were discussed if the protection of animals, especially those that are endangered, was a primary reason for the establishment of the ecotourism site. A simplified presentation of the results is represented in Table 3.

### **Tortuguero National Park – Government**

- *Overcrowding* - Although Tortuguero National Park has seen a rise in visitors in recent years, the increase can not necessarily be classified as overcrowding. Jacobson and Lopez note in their 1994 study that even during peak months the park does not often reach full capacity.
- *Education for tourists* – Tourists are educated as part of their stay in Tortuguero (Koens et al., 2009).
- *Education for local community* – The children of the community are educated. However, conservation education is lacking for adults (Koens et al., 2009).
- *Sustaining for local community* – Overall, Tortuguero sustains the local community as the region is very economically dependent on the park and tourism. Moreover, the growth of ecotourism has resulted in the improvement of medicine, infrastructure and education for residents of the region. However, although the local guides have greatly benefitted from

ecotourism, the emphasis on package tours (which primarily make money outside of the region) makes it difficult for local entrepreneurs to enter the market (Koens et al., 2009).

- *(Negative) Tourist impact on the environment* – Although the designation as a national park has mostly been beneficial for Tortuguero's environment, there have been some notable negative impacts. For example, there was some land clearing in the area as several large hotels were built with poor spatial planning (Koens et al., 2009).
- *(Negative) Tourist impact on wildlife* – As Tortuguero is a national park and ecotourism site known for its protection of endangered turtle species, many of the visitors to the park come to observe the turtles in their natural habitat. The presence of tourists during the nesting season had an array of effects on the turtles. Turtles were noticeably disturbed by lights from tourists' flash cameras and flashlights, as well physical contact, during their movement toward or away from the sea and digging. Some turtles that were disturbed when emerging from the ocean turned around and went back into the water (Jacobson and Lopez, 1994). Turtles and other forms of animal life are often disturbed by boats and other human activity (Koens et al., 2009).
- *Financial benefits for conservation* – The financial benefits for conservation in Tortuguero National Park were never directly discussed in any case studies used. However, Koens et al. (2009) report that various proposed projects that would increase conservation are under threat

because of money issues, including a recycling plant and an undefined project that would help alleviate sewage problems.

### **Asociación Comunal para el Manejo Forestal (ASCOMAFOR) – Community**

- *Overcrowding* – No reports of overcrowding were found.
- *Education for tourists* – Education is incorporated into the tourists' stay in the ASCOMAFOR sites. Environmental programming and awareness are both part of tourist education (Koens et al., 2009).
- *Education for local community* – Education is provided to local school children because of the revenue generated through ecotourism in the ASCOMAFOR sites (Koens et al., 2009). Because the children are exposed to conservation and environmental awareness at a young age, they can use that knowledge to further environmental protection and education of future generations.
- *Sustaining for local community* – Tourism functions on a small scale; this means that the positive effects for the community are somewhat limited as tourism is not able to bring in much income. Unlike the package tours offered in Tortuguero National Park, the tourism in ASCOMAFOR employs and is operated by locals. Therefore, the revenue earned from tourism ventures stays in the community.
- *(Negative) tourist impact on the environment* – The environmental impact caused by the ASCOMAFOR ecotourism sites is negligible. Koens et al.

note that like many ecotourism sites, waste and sewage produced because of increased visitation may become a problem in the future.

- *Financial benefits for conservation* – As previously stated, some of the revenue earned from tourism efforts goes toward conservation education for children in local schools.

### **The Brazilian Sea Turtle Conservation Program (TAMAR) – Government**

- *Overcrowding* – No reports of overcrowding were encountered.
- *Education for tourists* – Education programs that target tourists primarily exist in the visitor's centers. Each state that is active in the TAMAR program has at least one visitor's center. All of the centers are free except the main center in Praia do Forte, but the entrance fee there is very low. Many of the centers house and care for a small number of turtles at different stages of life so visitors can learn more about the sea turtles and their life cycle. Visitors are also encouraged to visit the hatcheries, interact with station staff, watch videos, and participate in the hatchling-release programs, which is only available in some of the sites (Marcovaldi and Marcovaldi, 1999).
- *Education for local community* – Many members of the community learn about conservation through employment with TAMAR. For example, each of the fishermen hired to patrol the beaches is from a different community where the TAMAR program is active. In having employees from different

communities, TAMAR is able to spread information about endangered sea turtles and conservation.

In addition to the dissemination of information through the fishermen, TAMAR emphasizes community outreach and education in the coastal villages. For example, TAMAR members give school presentations with videos and slides, host hatchling release ceremonies, and organize local festivals (Marcovaldi and Marcovaldi, 1999).

- *Sustaining for local community* – TAMAR is the primary source of income, both directly and indirectly, for the majority of the beach communities where individual sites are located. TAMAR employs many members of the community, including ex-poachers who patrol the beaches. In order to keep the relationship between the community and the government-based project strong, a large percentage of the funds raised by the program are invested in the community (Marcovaldi and Marcovaldi, 1999). Because of the investment TAMAR makes in the community, some villagers report that they view sea turtles as icons for their villages (Stronza and Pêgas, 2008).
- *(Negative) tourist impact on the environment* – No negative environmental impacts were reported in any of the case studies encountered. Given that many villagers now have a strong appreciation for the safety of endangered sea turtles and conservation education provided by TAMAR, it seems that activities that may have had a negative environmental impact would be lessened or ceased altogether.

- *(Negative) tourist impact on wildlife* – The involvement of tourists in TAMAR seems to have a beneficial impact on the wildlife overall, especially as much of the money made from tourists is used by the program to further their conservation goals.
- *Financial benefits for conservation* - TAMAR earns a substantial portion of the necessary funds to run the program through the sale of TAMAR merchandise and other goods sold to tourists (Marcovaldi and Marcovaldi, 1999). These funds help pay for the salaries of beach patrolmen, education for children and the visitor centers, which all help contribution efforts.

#### **Silves Association for Environmental and Cultural Preservation (ASPAC) – Community**

- *Overcrowding* – No reports of overcrowding were noted in any case studies encountered.
- *Education for tourists* – At the ASPAC sites, many local residents are very involved in teaching tourists the lifestyles of riverside dwellers, such as fishing, planting, making traditional meals, and preparing fish for cooking (Bartholo et al., 2008). This understanding of local culture and the importance of the preservation of fish stocks and the local environment seems to translate into understanding the necessity of conservation.
- *Education for local community* – Education is provided to the community by ASPAC and the World Wildlife Fund-Brazil. It has been vital to the conservation success in the area as the education programs have made local residents aware of the importance of conservation. Eight of the local

fishing communities have been involved in discussion that center around the problems and preservation of the local ecosystem. Residents were also trained in enforcing the regulation of the fish stocks. Finally, information was broadcast on the radio that helped raise residents' awareness and accept the new system (Bartholo et al., 2008).

- *Sustaining for local community* – Immediately following the establishment of ASPAC, the community was heavily dependent on the financial support of outside organizations, such as the Austrian government. Since then, the community has been engaging in discussions and making steps toward becoming more financially independent (Bartholo et al., 2008). Given the success of the program, it appears that ASPAC is making significant progress in attaining that goal.
- *(Negative) tourist impact on the environment* – Although there has been little negative impact on the environment, there is potential for serious damage because of the area's reliance on batteries due to a limited availability of electricity. If the batteries aren't disposed of properly and consistently, harmful chemicals could leak from the batteries into the water supply (Bartholo et al., 2008)
- *(Negative) tourist impact on wildlife* – The establishment of the Silves Association, and subsequent tourism to the area, has positive impacts for wildlife, especially fish in the rivers and lakes. Because the area was being overfished, ASPAC collaborated with the government and members of the community to create zoning systems for the nearby lakes. This has

drastically cut down on the overfishing and helped raise residents' awareness of conservation issues (Bartholo et al., 2008).

- *Financial benefits for conservation* – According to Pearson and Beletsky (2005), money earned from ecotourism is used towards “ranger patrols, community education, and habitat restoration.”

### **Galápagos Islands – Government**

- *Overcrowding* – Despite the government's efforts, there continues to be overcrowding in the Galápagos Islands, especially as visitation consistently exceeds annual limits. As previously discussed, overcrowding and subsequent environmental degradation at some sites has resulted in assigned itineraries that require tourists to visit less popular sites.
- *Education for tourists* – When tourists visit the Galápagos Islands, they are assigned a Naturalist Guide. These naturalist guides lead tourists throughout the park and educate them along the way. They are not only educated about Galápagos history, geology, and biology, but also conservation issues. There are also visitor guides available to tourists (Directorate of the Galápagos National Park, 2009). Despite their knowledge of conservation, the primary purpose of the guides is not conservation education. Unlike the other ecotourism sites, there seems to be no intentional conservation education.
- *Education for local community* – No reliable data available.
- *Sustaining for local community* – Residents of the islands definitely make money from the tourism sector, especially those who work in restaurants,



bars, and hotels. Those who grow produce can make a living selling their fruits and vegetables to restaurants and cruise ships. A lot of the money made by those directly involved in tourism goes back into the local economy. Residents live in such an isolated location, and that helps sustain those who are not directly involved in tourism.

Despite the stimulation of the local economy through tourism, much of money generated through tourism never reaches the economy of the Galápagos. Scholars estimate that less than 10% of the income generated through tourism actually goes into the local economy instead of the two major airlines that fly to the Galápagos or the cruise lines. Both of these travel alternatives are owned by non-Galápagos residents (Taylor et al., 2003).

- *(Negative) tourist impact on the environment* – There has been a definite negative impact on the environment, especially due to overcrowding. In fact, the Galápagos Islands are included on the list of endangered World Heritage sites as of 2007. Although the negative environmental impact is seemingly hard to quantify, there have been signs of erosion and damage in various tourist sites. Because of the overcrowding, guides cannot always enforce regulations to the best of their ability, which can result in more environmental degradation. Moreover, not all tours and activities are part of the ecotourism. For instance, marine activities, are sometimes responsible for producing inorganic waste, which increases the

environmental damage already caused simply by human presence (Honey, 2008).

- *(Negative) tourist impact on wildlife* – In addition to the slight negative impact on wildlife that has been caused by overcrowding, the huge influx of tourists has increased the number of induced species living in the Galápagos Islands. The introduction of these non-native species is the biggest threat that the biodiversity faces because many of the new species can outcompete the native and alter the food chain (Honey, 2008).
- *Financial benefits for conservation* – While the large number of tourists appears to have negative consequences for the islands overall, the money they bring drastically increases the funds available for conservation. The Ecuadorian government has significantly increased the entrance fees for foreigners and increased the percentage of gate fees, which also equates to more money for conservation (Honey, 2008).

## Chapter VII: Conclusions

After conducting research and interpreting the information from all five ecotourism ventures, several key conclusions emerge. First, governments and communities both have very specific strengths that aid in their conservation efforts. Communities appear to be much more successful at regulation. Both ASCOMAFOR and ASPAC performed better in successfully limiting the number of tourists that visited their sites. On the other hand, although the Galápagos Islands have achieved relative conservation success from the efforts of the government to limit tourists, the number of tourists that visit the Galápagos each year far exceeds the limits established by the government. This overcrowding led to negative environmental impacts.

Like the Galápagos Islands, Tortuguero seems to be more limited in its ability to regulate tourists than its community-based counterparts. Much of its success in limiting tourism comes from the lack of leisure activities and the relatively isolated location. Brazil too has had difficulties with regulation as it generally suffers from a lack of staffing and resources. In fact, there are some national parks that include huge areas of relatively fragile ecosystems with only one or two rangers for the entire park.

Community-based ecotourism also seems to be much better at keeping the revenue generated by ecotourism in the community. A significant portion of the revenue earned from ecotourism in both Tortuguero and the Galápagos Islands goes to outside companies as they provide transportation and tours. As both of these locations are generally understaffed, it is likely that they government cannot afford to provide the same quality tours as outside companies. However, the problem is that the outside companies are often not even based in the same country, which means that many of the financial

benefits go back to the countries that the tourists are from originally. The money generated from ecotourism would go much further in the communities in which the ecotourism sites are located than in the industrialized nations.

Both types of ecotourism ventures seemed to equally capable and successful in education efforts, and the type of experience varied by operation. Many of the ventures were strong in community education, especially the education of children. This is not surprising as children growing up with an appreciation for the environment and conservation will be more likely to continue conservation efforts.

Each venture also made an effort to provide education to the tourists visiting the locations. This is also not surprising as one of the principles of ecotourism is that tourists gain an understanding and appreciation for the culture and ecosystem that they visit. Moreover, because many tourists are Americans and Europeans with more disposable income, they're more likely and more able to give back to the community through monetary contributions.

Perhaps the most important conclusion is that community engagement makes a very noticeable difference in the success of an ecotourism venture. This is most evident in the Galápagos Islands. Although there has been a great deal of environmental damage caused by tourists, the damage caused by “colonists, fishers, poachers, and job and fortune seekers” has been greater (Honey, 2008). Prior to legislation passed in 1998 that limited migration, the Galápagos Islands was one of the fastest growing regions in the world. In the 1990s, the population rate grew between 6 and 10 percent per year. While most of the long-term residents grew up respecting the environment and conserving the islands' limited resources, many of the newcomers do not share those sentiments and the

government has been relatively unsuccessful in engaging this community in its conservation efforts. Local residents are often those who demand more fishing rights, lumber, and land for building homes. Because the government has been unsuccessful in gaining their understanding and support, this population is causing more damage than tourists.

Although Projeto TAMAR generally has a good relationship with the community, they could face similar problems. Residents of TAMAR's coastal locations generally reported a lack of engagement with the management of Projeto TAMAR (Stronza and Pêgas, 2008). Although residents generally feel pride for their participation in turtle protection, if the project ceased being sustainable for local residents, they could be forced to turn against the management in order to make money. Lack of a strong relationship with the community could also affect the success of Tortuguero National Park as local residents generally feel distrustful of the government (Koens et al., 2009).

Conversely, engaging the community in the policing activities in the sites managed by Projeto TAMAR has proven to be very successful. Residents who formerly were responsible for killing sea turtles are now protecting them. Although not a government-initiated site, Silves has used the same tactic to great success as well.

The results of this study confirm my original hypotheses. Both Tortuguero and the parks of the Galápagos Islands, the two government sites with the least community involvement, were the least successful in their conservation efforts as neither of them were able to fully achieve their goals of protecting the wildlife and environment from the negative environmental impact caused by tourists. If the community was engaged in the government's conservation efforts, the Galápagos Islands would be much better at

conserving both the environment and the animal population. Moreover, neither site was able to retain the majority of their revenue to sustain the local population.

As hypothesized, the community-based efforts were more successful in promoting and achieving their goals. ASCOMAFOR, for example, was not only able to use ecotourism to preserve the local environment, but efforts have also earned enough money to use toward conservation education for tourists and future generations of Costa Ricans. However, the sites have not been as successful in making enough money to sustain the community.

The most successful ecotourism ventures are those that have achieved a significant collaboration between the community and the government. For example, of the two community-led sites, the Silves Association was best able to achieve its conservation goals. In fact, the site has been successful in all areas except the potential environmental harm caused by the use of batteries instead of electricity. It is very possible that the efforts of the Silves Association would not have been successful without government engagement because the government was needed to protect land in order to restrict commercial fishermen. TAMAR, the most successful government-led operation, is the one site that completely fits each of the conservation conditions. Without the engagement of the community, the beach patrolling and education aspects of TAMAR would not be possible.

One clear, unanticipated conclusion that emerged from this research is that the size of the location and the number of visitors seem to have a significant effect on conservation efforts. Aside from the Galápagos Islands, all the other programs and sites operate on a relatively small scale. Each of the other sites is likely to receive hundreds of

visitors a year whereas the Galápagos receives hundreds of thousands. Because no other large scale operations were studied, it is difficult to determine to what extent size is a factor. However, it is a topic worth further investigation.

### **Contributions**

Although the focus of my study has been three cases in Latin America, I believe these results are replicable in other areas of the world with similar ecotourism ventures. The success of collaboration between the government and the community is not limited to Latin America as collaboration between the two incorporates the benefits of both. My results are particularly pertinent to other developing areas of the world striving for a balance between preservation and development. The results of this paper could perhaps have policy implications, insofar as these demonstrate that collaboration between the government and the community produces the most successful outcome.

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