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Ecotourism in Costa Rica: Environmental Impacts and Management

by

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AN UNDERGRADUATE THESIS

Presented to the Faculty of
The Environmental Studies Program at the University of Nebraska-Lincoln
In Partial Fulfillment of Requirements
For the Degree of Bachelor of Arts

Major: Environmental Studies
With the Emphasis of: Sociology

Under the Supervision of Dr. Al Williams

Lincoln, Nebraska

May, 2011

Ecotourism in Costa Rica: Environmental Impacts and Management

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University of Nebraska, 2011

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Abstract:

Globally we are witnessing growing environmental destruction, particularly to the natural resource bases of underdeveloped countries. If ecotourism can generate profits for local economies, while protecting and conserving the natural resource base of that community, it could be a strong alternative for numerous countries. Evidence suggests that the ecotourism industry has been expanding at a rapid rate in recent decades (Dasenbrock 2002). It is important to understand the positive and negative ecological impacts of the industry as this rapid growth rate continues.

The main objective of this study is to highlight the strengths and weaknesses of the ecotourism industry in Costa Rica with regard to environmental impacts. Costa Rica has been selected as a focus country to examine these impacts due to its strong reputation as an ecotourism destination and because it's economy has been increasingly fuelled by ecotourism (see appendix D). Using in-depth interviews conducted with four Costa Ricans, the strengths and weaknesses of ecotourism in Costa Rica as it relates to the environment are revealed.

This research proves to be significant because Costa Rica is a top ecotourism destination in the Western hemisphere, and therefore provides us with a working framework of what ecotourism principles are most valuable in ensuring sustainability. This new knowledge will allow for an understanding of ecological impacts and factors that minimize these impacts. To limit negative impacts, there must be sustainable management of ecotourism sites.

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Introduction:

A growing body of literature has emphasized that ecotourism has grown rapidly over the past twenty years and is expected to continue to grow in this trend (Dasenbrock 2002). In this thesis ecotourism is defined as the, "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" (Garen 2000). This is an ideal definition of ecotourism and often, ecotourism in practice does not live up to it. Still, ecotourism presents an alternative to the traditional forms of land use that are often destructive to the environment, such as: agriculture, logging, mining, and industrial development. These land use forms are often the status quo in developing countries, and an easy way to make a needed dollar. Ecotourism has, in relatively recent years, been seen as an optimistic alternative to these industries.

Countries are slowly recognizing that it may be possible to generate more income by preserving one's natural resources. Ecotourism allows for economic benefits while conserving land, and Costa Rica is exemplary of this. Twenty-five percent of Costa Rican land is under some form of government protection (see appendix F). This report will analyze the ecotourism industry in Costa Rica with an emphasis on the fragile balance between income generation and protection of natural resources that comes with being a top ecotourism destination.

For the past several generations, humans have been socialized into achieving one clear goal: make money and a lot of it. This has created numerous

environmental problems, a lack of accounting for these problems, rare efforts toward conservation, and a strong mind set that short-term, quick profit approaches are effective means of achieving what one wants: money. Ecotourism is a potential way of solving some of these issues, while fulfilling that need to achieve profit. However, whether directly or indirectly, the influx of tourists to Costa Rica and other ecotourism destinations has a tremendous impact on the natural, socio-cultural, economic, and political capital of the nation. Tourists bring in revenue, but their very presence in these fragile ecosystems can result in negative consequences for plants, animals, and people that live in these areas.

While the maintenance of protected areas is vital to the success and sustainability of ecotourism, the focus of my interviews is on ecological or natural impacts of ecotourism, these being the effects on the general health of the ecosystems. The problems and strengths of ecotourism in Costa Rica will be assessed throughout this thesis, using in-depth interview data on four Costa Ricans as well as personal observations. Successful ecotourism requires balancing many interests, so there must be sustainable management of these ecotourism destinations. Specifically, management must focus on constant regulation of the conservation efforts, the number of tourists allowed to visit the area, and generally maximizing profit while minimizing ecological impacts.

There is evidence suggesting that the ecotourism industry has been expanding at a rapid rate in recent decades and continues to grow (Dasenbrock 2002). It is important to understand the positive and negative ecological impacts of the industry as this rapid growth rate continues. The research provided in this

thesis has been analyzed with Costa Rica as the focus. This research proves to be significant because Costa Rica has been a pioneer in ecotourism and therefore provides us with a working framework of what ecotourism principles are most valuable in ensuring sustainability. This new knowledge will allow for an understanding of ecological impacts and factors that minimize these impacts. To limit negative impacts, there must be sustainable management of ecotourism sites.

Literature Review:

Tourism Growth in Costa Rica

Tourism is the fastest growing sector of the world's service industry, and ecotourism is the newest rage. Costa Rica has been a leader in the ecotourism race, with the largest economic revenue coming from tourism and the industry continues to grow (Dasenbrock 2002). According to the Costa Rica Tourism Institute:

> The Daniel Oduber International Airport saw the highest number of tourist in the first month of the year in its history. Data gathered from the Immigration Services Department and processed by the Costa Rica Tourism Board (ICT) reported 31,637 tourists in the first month of the year for 2011, which is a 28.2% increase from the same period in 2010 when there were 24,677 tourists. These January results for 2011 are the highest in its history. The previous record was 29,206 visitors in 2008. The majority of the visitors were from the United States (17,278), followed by Canada (11,013), and England (1,211).

Stefan Gosselin (1999), in analyzing an airport survey, stated that, "more than 50% of all tourists visited at least one protected area during their stay in Costa Rica in 1988, and about 40% stated that reserves were important or primary reasons for choosing the country as destination." Due to the results from this survey, we can assume that protected areas can be a strong motive for travel to specific destinations. Furthermore, as stated in the Gosselin article (1999), "In 1995, Costa Rica received $660 million in tourist revenues. Attributing 45% of this sum to tourism connected with protected areas leads to an annual gross value of $297 million, or almost $457/ha. This estimation is possibly conservative, however, as nature and ecotourism have been growing faster than conventional tourism. " We

can assume these numbers are even more dramatic today, as the ecotourism industry has grown immensely since 1995.

Keeping this growth in check will be vital for Costa Rica if they hope to continue to benefit and profit from the influx of tourists. It is essential that with this heavy traffic of tourism there is appropriate management and limits in place. In the quest for profits, all too often ecotourism becomes ecologically damaging. According to Harold Goodwin (1996), "Tourism is now the world's largest industry and it has an increasing impact on protected areas. Our understanding of these mechanisms, their ecological impacts, and our capacity to manage tourism in protected areas lags behind the growth of tourism to protected areas." Unfortunately, this growth of the tourist sector in Costa Rica could be a risk to the protected areas throughout the country.

In 1999, protected areas welcomed 866,083 national and foreign tourists, who generated about US$ 2.5 million in admission fees and payment of services (Costa Rica Tourism Institute). Costa Rica is known worldwide as a top spot for ecological tourism and makes frequent and numerous headlines. On January 19, 2011, the prestigious British newspaper, Daily Mail, recommended Costa Rica as the "perfect destination" for nature and adventure enthusiasts (Eade 2011). According to the Costa Rica Tourism board, Costa Rica also placed second in the list of preferred destination spots around the world and was therefore awarded the Wanderlust Travel 2011 award from the British magazine Wanderlust. The renowned US student travel agencies: Smarter Travel, Student Universe and Student Travel Agency (STA) recommended Costa Rica as the primary destination spot to

visit this year-end holiday season. Additionally, Costa Rica ranked first in the top 10 most popular destinations for adventure tourism according to the US magazine International Business Times (Costa Rica Tourism Institute). From these examples, one can gain the perspective of the international recognition Costa Rica has gained as a tourism destination.

History of Tourism in Costa Rica

Today, Costa Rica is one of the most popular ecotourism destinations in the world. Why Costa Rica? Although a small country, Costa Rica has incredible biodiversity with scenic beaches, lush rain forest, impressive volcanoes, and exotic wildlife. Thanks to the small size of this Central American country one can experience volcanoes, the rain forest, and the beach all in one day. Another factor contributing to the nation's success as a tourism destination is its close proximity to the United States and Europe. The U.S. is the number one exporter of tourists in the world, making up 20% of the world tourism market; and contributes up to 49% of the tourists in Costa Rica (Dasenbrock 2002). Additionally, Costa Rica has a long history of political stability and stands out among other Central American countries for its safety and peaceful character. Finally, Costa Rica has a relatively high standard of living compared with other Central American countries and has a strong pro-environmental image. However, throughout the history of the country, protection of the environment was not always a top priority.

According to Vorhees and Firestone (2006), when the Spanish arrived in Costa Rica, the rainforest was an obstacle to getting to treasure. It was during the 18th century, Spanish naturalist Fernandez de Oveido fell in love with the

biodiversity of the country and encouraged Costa Ricans to protect their land. However, with coffee and banana plantations sprouting up everywhere, much environmental damage occurred. Even into the 1900's clearing the forest was viewed as more productive than conserving it. It was during the 1970's when the coffee prices dropped around the world, that Costa Rica decided to look at alternative options of land use. The country decided that if they could not make profits with their exports, that they would try a new import, that being tourism. By 1995 there were over 125 government protected sites including national parks, wildlife reserves, and forest reserves (Vorhees and Firestone 2006: p. 43). The ecotourism expansion was in full force.

Ecotourism in Costa Rica has been growing ever since. According to *Costa Rica,* in 1975 Monteverde Cloud Forest received only about 500 visitors, but by 1995 the number of recorded visitors surpassed 50,000. The industry brought in $100 million in 1985 and by 1995 it brought in over $750 million to the economy. Tourism in Costa Rica has continued to boom, and today the influx of tourists is the leading contributor to the country's gross domestic product. Costa Rica has become a pioneer for sustainable tourism with strict regulations from the Ministry for Environment and Energy (MINAE) and the Costa Rica Tourism Institue (ICT).

According to the Costa Rica Tourism Institute (ICT) website, "The development of sustainable tourism must be seen as the balanced interaction between the use of our natural and cultural resources, the improvement of the quality of life among the local communities, and the economic success of the industry, which also contributes to national development. Sustainable tourism is not

only a response to demand, but also an imperative condition to successfully compete now and in the future (Definition of Sustainable Tourism, CST 1997)." The Board came up with a way to rank and measure the environmental responsibility of tourism destinations throughout the country on a scale of one to five. Each hotel that meets the sustainability standards of the ICT will be labeled with the certificate of sustainable tourism. The Certification for Sustainable Tourism (CST) strives to "make sustainability a reality within the context of the country's competitiveness in tourism, while looking to improve the way that natural and social resources are used, encourage the active participation of local communities and provide a new source of competitiveness within the business sector." This certification allows tourists to know what hotels or resorts are making environmentally conscious decisions, and it also provides another level of competition and responsibility for ecotourism destinations.

Previous Research on Ecotourism in Costa Rica

The potential for management of ecotourism activities is illustrated in Lisa Campbell's article, *Conservation Narratives and the 'received wisdom' of ecotourism: case studies from Costa Rica* (2002). In this article, the promotion of ecotourism is assessed by a group of wildlife conservation experts. In 1995, In-depth interviews were undertaken with 42 conservation experts and with 12 key informants at the case-study sites in rural Costa Rica (Campbell 2002). The article assesses the political, social, economic, and environmental objectives of ecotourism. The results reflected that generally, "experts in marine turtle biology and conservation were optimistic about ecotourism as a potential wildlife conservation tool, and they cited

many of the objectives of ideal ecotourism (Campbell 2002)." Overall, the case studies analyzed throughout this article add to the confirmation that environmental, political, and socio-economic benefits of ecotourism are difficult to achieve in practice.

In Goodwin's article, *In pursuit of ecotourism* (1996), the growth of ecotourism, definitions of ecotourism, the marketing of ecotourism as an alternative to mass tourism, and the impacts from ecotourism are analyzed. He concluded that there are three ways that ecotourism can benefit protected areas. "First, ecotourism is one of the most important ways in which money can be generated to manage and protect the world's natural habitats and species (Goodwin 1996)." Money can be generated through park entrance fees and guides. This money must, then, be reinvested into the maintenance and preservation of the species, habitats, and park efforts. Next, ecotourism can benefit protected areas by enabling local people to gain income from these areas near which they live. "If local people gain from the sustainable use of, for example, a coral reef or wild animals through tourism they will protect their asset and may invest further resources into it (Goodwin 1996)." Last, ecotourism can benefit protected areas by offering a means to raise people's awareness of conservation and ecology.

Additionally, Goodwin concludes that the old caution to "take only photographs and leave only footprints" is not enough. He suggests rather, that ecotourism "must ensure that nature tourists contribute financially to the maintenance of the biodiversity contained in protected areas (Goodwin 1996)." This was also cautioned in *Ecotourism*, by Aylward and Freeman (1992), saying: "If

revenues of ecotourism do not accrue to national park systems or local communities, there will be little economic incentive for investment in the recurring costs of conservation activities." Agnes Kiss reinforces this idea in an article, "Community-based ecotourism (CBET) has become a popular tool for biodiversity conservation, based on the principle that biodiversity must pay for itself by generating economic benefits, particularly for local people (Kiss 2004)." To sum, ideally ecotourism should produce profits to maintain biodiversity, conservation, and support the local economy.

Ecotourism should be compatible with conservation goals while posing minimum threat to the local culture. It should additionally contribute money and education for the conservation of ecosystems (Gosseling 1999). Outlined in the article by Gosseling, *Ecotourism: a means to safeguard biodiversity and ecosystem functions?* is one example used to strike a balance between economics and ecosystem protection:

> Costa Rica, for instance, raised admission fees by a factor of 10 in 1994 (from $1.5 to $15 for foreign visitors). In consequence, visitor numbers plummeted by an average of 44% in the following year, but total revenues increased substantially. This way, it was possible to combine the maximization of economic benefits and reduce the pressure on ecosystems. Admission fees are a means to keep the number of visitors within an ecosystem's carrying capacity, or to limit growth rates, so that planning, management and control measures are not outpaced by the development (P.316).

Management as a Conservation Tool

My investigation highlights the crucial role of management in achieving a sustainable ecotourism site through semi-structured in-depth interviews. This is in

accordance with Hill and Gale's (2009) report on case studies from around the world:

> Ecotourism potentially draws tourists into fragile, remote and often protected areas that are vulnerable to the impacts of visitors. Such tourism needs to be controlled if the visitors are not to damage the places and wildlife that they are visiting. Control can be achieved through the provision of environmental information for tourists, increasing visitor knowledge and mindfulness (p. 242).

The idea that effective management is a cornerstone to the sustainability of ecotourism is reinforced in *Managing Sustainable Tourism: A Legacy for the Future* by Edgell (2006), "Any business plan for resort development should identify, from the beginning, a set of guidelines or standards that determine the carrying capacity of the project, area, available transportation, and other factors (p. 108)."

Edgell continues saying,

> When the visitor and host population are both experiencing exceptionally crowded conditions, the upper limits of the carrying capacity have been passed, the negative effects of tourism become apparent, and the quality of the environmental and the tourism product begins to decline for both residents and visitors (p. 108).

This signifies the importance of having an action plan or vision when developing an ecotourism site. The literature is repeatedly supportive of managers of ecotourism sites who have established, promote, and implement their strategy of how to ensure a balance between number of tourists and the environment so to maintain the establishment for future generations. In Edgell's analysis of managing sustainable tourism, he highlights Costa Rica:

> For the most part, Costa Ricans have used ecotourism in the best way possible- to preserve the land and select activities to enhance and appreciate the natural beauty and culture of the place; in exchange for help in conserving the land, citizens have been provided with economic benefits, including jobs, to supplement farming income (p. 109).

He also compliments Costa Rica saying, "this country has one of the finest ecotourism programs in the world (p. 109)."

Methods:

Costa Rica was selected as a focus country to examine the environmental impacts of ecotourism due to its strong reputation as an ecotourism destination and because, increasingly, its economy has been fueled by ecotourism. In-depth, semi-structured interviews were conducted between October 2010- April 2011 with four respondents. . Interviews lasted between thirty minutes to an hour and a half. Notes were collected from interviews and additional notes were written once the interview was complete about personal observations and thoughts. All interview participants have experience with the industry and three of the four have been involved with or work within the ecotourism industry. The interview questions (see appendix B) and informed consent form (see appendices A and C) were created in both English and Spanish. The University of Nebraska at Lincoln Internal Review Board (IRB) approved all research protocols in September 2010. This study focuses solely on the environmental impacts of ecotourism, therefore questions and answers regarding culture and economics were omitted unless they were relevant to ecological impacts.

Participants were selected based on their history of involvement in the ecotourism industry, their knowledge about the industry, and personal contacts. When meeting people in Costa Rica with an obvious interest and knowledge of ecotourism, the project was explained to them and they were inquired about their willingness to do an interview. Three interviews were conducted in Costa Rica: one with a director of ecotourism at a biological reserve, one with a professor of ecotourism, and one with a professor of environmental impact and social

development. Although there was an option to complete the interview in Spanish, all interviewees were fully capable of speaking English. Therefore, all interviews in Costa Rica were completed in English.

Many more interviews may have been conducted in Costa Rica, however there was a cultural misunderstanding with the consent form. Some Costa Ricans were intimidated by the formality and opted not to participate. The implications of this and recommendations for future research will be discussed in the conclusion of this paper.

Additionally, there were willing Costa Ricans who never had the opportunity to complete the interview due to difficulties with scheduling, transportation, and time. Upon my return to the United States, I obtained approval once more from the IRB to conduct these interviews through email. Those willing participants were later asked to complete the interview questions and email them back to me. Unfortunately, only one participant replied with answers to the interview questions. He was sent questions in English, but replied in Spanish. Therefore, three of my four interviews were conducted in English, and the last one was in Spanish.

Results:

Qualitative data gathered from semi-structured in-depth interviews reflect the positive and negative consequences of ecotourism on the environment in Costa Rica. Interviewees were selected based on their obvious knowledge of the ecotourism industry. Interviews lasted between thirty minutes to an hour and a half. Notes were collected from interviews and additional notes were written once the interview was complete about personal observations and thoughts the interview. All interview participants have experience with the industry and three of the four have been involved with or work within the ecotourism industry.

Participant one is a director of ecotourism at a biological reserve on the Pacific coast of Costa Rica. She is a middle-aged female and has been involved in the industry for about ten years. Participant two is a Costa Rican man in his late fifties and professor of ecotourism. He spent much of his earlier life working in a management position with the hotel industry in Costa Rica. Participant three is a man in his thirties who is a professor of a class titled: *Environmental Impacts and Social Development*. He frequently uses ecotourism in his curriculum. Participant four is a male in his twenties who currently works for the government of Costa Rica. He has prior experience in the ecotourism industry working to develop sustainable projects. The interview with participant four was conducted over email, and although he was sent questions in English, he chose to respond in Spanish. All other interviews were conducted in English in Costa Rica.

This research is significant because Costa Rica is a top ecotourism destination, and therefore provides us with a working framework of what

ecotourism principles are most valuable in ensuring sustainability. This new knowledge will allow for an understanding of ecological impacts and factors that minimize these impacts. To limit negative impacts, all participants insisted that there must be sustainable management of ecotourism sites.

When asked about whether or not the money generated from ecotourism was used to instigate community projects, participants all agreed that the money was often directed toward community projects. Participants believed that ecotourism and community went hand in hand, and that this was a positive relationship. The most important factor is that the management incorporates the local community into their conservation efforts. Having community involvement helps ensure that ecotourism is done in a manner that is sustainable, meaning allows for the continued health of the ecosystems in the area, while benefiting the local community.

Participants were asked to provide examples of community projects that have been instigated. One participants shared the example of INBio (Instituto Nacional de Biodiversidad/ National Institute of Biodiversity) Parque, a park in Heredia, Costa Rica (see appendix H) geared to educating both residents and tourists about sustainability and the diverse ecosystems in the country, as well as conducting scientific research on species in order to improve protection. INBio Parque is a positive example of how ecotourism can be utilized for education, research, and protection of species, while producing income from tourism. More information about INBio Parque and the work the institute does was found on their webpage:

> The National Biodiversity Institute (INBio) of Costa Rica is a private research and biodiversity management center, established in 1989 to support efforts to gather knowledge on the country's biological diversity and promote its sustainable use. The institute works under the premise that the best way to conserve biodiversity is to study it, value it, and utilize the opportunities it offers to improve the quality of life of human beings.

INBio is a non-governmental, non-profit, public interest organization of civil society that works in close collaboration with different government institutions, universities, the private sector and other public and private organizations, both within and outside Costa Rica.

Another participant provided the example of Ostionale. He describes how ecotourism has been used to instigate community projects toward conservation and long-term sustainability with the Ostional Wildlife Refuge on the Nicoya Peninsula, which is in the province of Guanacaste (see appendix H). So many turtles come to Ostional beach to harvest eggs throughout the year that locals have learned to invest in this as an ecotourism activity. People come from all over the world to view the massive numbers of turtles onshore. The locals have learned that it brings in more income to protect the turtles and their eggs from poaching, so volunteers and locals have night shifts to look out for turtle eggs. This is a great example of ecotourism being utilized for community projects, protection of species, and income generation.

An additional question participants were asked is, "Do you feel the ecotourism industry does more harm or good in regards to environmental conservation and long-term sustainability?" Interviewees felt that the industry does more good than harm in regards to environmental conservation and long-term

sustainability, but that it is dependent on several factors. Some of these factors include: making all industries behind ecotourism more sustainable (food, transportation, lodging, etc), keeping ecotourism sites within the carrying capacity of the location, and the management vision in place (to maximize profit or minimize environmental impacts). One participant said:

> The biggest problem is to make all processes are environmentally friendly. This involves generating a set of good environmental practices involved, and in Costa Rica is a major problem: the management of solid waste, sewage and fossil fuels. These three are to solve problems that require educational and cultural changes, but in addition to heavy investment, both state enterprises, to change and improve outdated systems.

Another participant explained the importance of the management of an ecotourism destination. She described how the management should have a clear vision and expectations for the destination even before implementing or constructing an ecotourism destination. All participants agreed that an ecotourism destination is likely to have negative impacts on the environment if the management did not have sustainable limits in place to ensure the carrying capacity of the destination is not surpassed.

When asked about the weaknesses of the ecotourism industry with regard to environmental protection, participants had different answers. One argued that the greatest weakness of the industry was a lack of communication among all the areas within ecotourism (food, transportation, etc.). He argued, "ecotourism still starts at the airport and ends at the airport." Another participant agreed and went on to explain the infrastructure issues in Costa Rica with regard to waste and excess use

of fossil fuels. All participants agreed that on a case by case basis the management of the site was a high indicator of environmental protection, or lack there of.

Participants were also questioned about the strengths of the ecotourism industry with regard to environmental protection. Again there were a number of responses including: education, conservation, and protection. One participant said,

> The strengths lie with the smaller eco sites that really focus on education about natural wonders in the area, such as rain forests, species, and conservation. These sites are going to have limits and guidelines for tourists that protect the environment. This can allow for learning and change. When people become interested and educated about the environment, there is no telling how far the positive impacts will go. Another positive impact of the ecotourism industry is the conservation and preservation of land and natural resources. Much of the land in Costa Rica that is protected will be protected forever. Therefore, future generations can experience these habitats and will also have the opportunity to learn and educate.

Another positive impact described by one participant was that Costa Ricans have adopted a new social norm t hat environmental protection is a positive investment. He describes:

> In Costa Rica there are excellent environmental and labor standards. In addition, society as a whole is clear that environmental protection is not an expense but an investment. This is important because companies see that protecting the environment is important and will incorporate it into their products and services. In the case of hotels, being ecotourism has become a very important selling point. In fact, many hotels have decided to become certified in order to ensure that effectively

> meet the requirements for "ecotourism" and thus distinguished from other businesses that use the name improperly.

Overall, it seemed there was a consensus that conservation was the greatest environmental strength of ecotourism.

Participants were asked about whether the money generated from ecotourism was used to further the conservation efforts in Costa Rica or if it was used to further development. Participants saw development and conservation as parts of ecotourism that go hand in hand. Participants viewed this as a positive relationship, meaning that if development was done sustainably, then it should not harm other conservation efforts in the area. It was agreed that how this development is done (sustainable vs. unsustainable) is dependent on the management of the ecotourism destination. One participant described this relationship as:

> It happens that hotels and ecotourism activities need to transform, so they buy more land in forests, or invest in improving their waste systems, solar panels, or sewage treatment. They can also use the money to increase the number of rooms or lodging places which may change the landscape and damage the environment rather than protect it, although determining the point at which to me seems very difficult (in some cases implementing the policy that “less is more”).

Participants were then asked about the types of regulations the eco sites are subject to and from which institutions. Participants described how the Institute of Tourism in Costa Rica has a certification process for sustainable tourism. Certification or CST: Certification of Sustainable Tourism comes from:

> The National Accreditation Commission of the CST, composed of the academic sector, private business, the public sector, and two international organizations, is responsible for granting CST distinction and making sure that certified businesses that advertise the label comply with the established guidelines. This way, tourists as well as those agents working with CST-certified businesses, can be certain that such businesses adhere to managerial ideals of social, corporate, and most importantly, sustainable responsibility (ICT website).

The purpose of CST is to,

> Make sustainability a practical and necessary reality within the context of the country's competitiveness in tourism, while looking to improve the way that natural and social resources are used, encourage the active participation of local communities, and provide a new source of competitiveness within the business sector (ICT website).

As all the participants agreed, this is the one certification that distinguishes the ecotourism sites from the other tourism sites. Ecotourism sites are also subject to numerous environmental laws, the Ministry of Energy and Environment, and other municipalities.

Another question regarding ecotourism sites that was asked to participants was regarding what it takes to be officially classified as an ecotourism site or development. Participants informed that this certification comes from the previously described "Certification of Sustainable Tourism (CST)" Sites are asked to complete a questionnaire of 153 questions, divided into 20 descriptors, and 4 areas by the CST. These four fields in which the establishment must act are: physical-biological environment, infrastructure and services, external client, and socio-

economic environment. Each one of the questions of the questionnaire reflects a positive condition in terms of sustainability; therefore, the actual evaluation seeks to determine what percentage of these positive conditions is being met in a particular company (CST website).

Finally, participants were asked about whether or not they believed ecotourism was an effective way for other countries to develop economically, while protecting their environment. All participants believed that ecotourism is a positive way for other countries to develop, although they cautioned it should be instigated on a case-by-case basis. All agreed that most often ecotourism is a positive alternative to many other industries developing countries are vulnerable to, like logging, industrialization, mono-crop agriculture, etc. One participant put it this way:

> If the country is attractive for ecotourism development, it can be an excellent way for environmental protection and economic development, provided that both are made intelligently. The country must have a variety of offerings, or they will find very stiff competition from the beginning, which may restrict the possibility of developing a national activity. On the other hand, the community-level initiatives or micro level ecotourism can have a positive effect on local communities and improve their quality of life.

Overall, the most consistent variable that was sited by participants as an indicator of success in environmental protection, income generation, and local impact was the role of management. As previously stated, when management has a mission and focus other than sole income generation, that ecotourism destination

can have positive impacts on the environment and surrounding communities. When management takes an opposite position, increasing visitor capacity and not enforcing limits, there is a probable negative impact. There was additional consensus for a need to "green" all aspects of ecotourism and that overall ecotourism does more good than harm in Costa Rica.

Personal Observations

While living in Costa Rica for four months I visited a number of National Parks, biological reserves, and other natural areas. I gained an understanding of the values of Costa Ricans toward their natural world, their attitudes toward tourists, first hand insight into the impacts of ecotourism, and a look at some of the larger infrastructure issues within the country.

To begin, Costa Ricans are extremely proud of their natural world and the leadership role they fill as a top ecotourism destination in Central America (see appendix G). "Costa Rica´s territory is so small that it encompasses only 0,03% of the planet´s surface but is still within the top 20 richest countries in biodiversity on Earth in terms of species density (Costa Rica Tourism Institute)." Costa Ricans realize they are a top destination, and rather than being annoyed or resentful toward tourists, it seemed that the Costa Ricans are welcoming and proud that so many people come to see their country. It is apparent that Costa Ricans view their natural world as a source of pride and there is an overall understanding that environmental protection is a positive investment.

As I traveled I paid attention to the impacts of tourists on the environment. Surprisingly, most of the parks and other natural areas are fairly clean. Some areas

of the country are worse with trash than others. Besides San Jose, the capital of the country, I noticed a lot of trash in the province of Guanacaste. Recycling is not implemented as much as one would hope or expect within the national parks and other tourist areas. However, overall the parks, biological reserves, and other natural areas were kept clean. The cities, on the other hand, were full of garbage, litter, and smelled, too.

Costa Rica has some serious infrastructure issues relating to waste. The landfills throughout the country are reaching capacity. When I was there the government had tried to stop trash being delivered to one of the landfills because it was so full and leaking toxins. They never reached a solution and reopened the landfill to accept garbage. Throughout the capital there is trash everywhere. The country is so small and having thousands of tourists coming, consuming, and producing more waste is having an impact. There is a lot of room to grow in the country with environmental policy. Recycling should be mandatory at the residential level to the industrial and commercial level to help reduce landfill waste. There is also a great need for education in Costa Rica that the waste in the city does have impacts on the beauty surrounding and that it is all related. Although it is apparent Costa Ricans are proud and want to protect their natural wonders, there is not enough effort being made to "green" other areas of the country.

As previously stated, I found the parks and protected areas to be well taken care of with regard to waste and upkeep. However, species behavior within some of the parks and tourist interaction with animals was at times concerning. In Manuel Antonio, a park on the Pacific coast of Costa Rica, there is not only overdevelopment

surrounding the region, but animals in the park are clearly suffering. White-faced capuchins steal food from tourists on the beaches and have become more aggressive as tourism in the park has increased over years past (Baker 2008). I do not doubt that these animals lack the ability to hunt on their own. Other raccoon-like animals also prey on tourists for food. In spite of the park's efforts to inform visitors it is not okay to feed monkeys, they still allow tourists to bring food into the park. This issue will be ongoing as long as tourists are able to bring food into the park. I also saw a sloth climbing along an electrical wire in the park. I know from a class I took at Universidad Veritas in San Jose, that the electrocution of animals has become a problem in Costa Rica.

I visited this park in December, which is high tourist season. The park has limits on tourists at 1,000 visitors in the park at a time. The guard outside the entrance gates was telling tourists that there was already a surplus of visitors in the park and that they would need to wait ten minutes before they entered. I talked to the guard about why he was letting more tourists in, what the ten minute wait was for, and why they had limits in place if they did not recognize them. He just replied that these people had traveled so far to visit the park, and he did not want to disappoint them.

Another experience I witnessed was at Tortuguero Nation Park on the Northeast side of the country on the Caribbean Sea. I visited this park in November 2010. When we went to the beach we witnessed a very precious and sacred sight of hundreds of baby turtles being born and making their way to the sea. As grateful and amazing as it was to be a witness to this, I could not help be concerned for the

turtles. About ten to fifteen tourists were surrounding them and chasing them with cameras and flashes (which affect the turtles sight and orientation). Although I was with a guide, there was no effort made to stop this chasing of the babies. Tourists were informed to turn off their flashes, but at that point the damage has already been done.

In spite of these experiences, I also observed ecotourism done incredibly well. At a biological reserve in the South Pacific, where one of my interviewees works, I witnessed ecotourism at it's finest. Environmental education is the mission and sustainable living is the example at this site. Organic gardens for vegetables, goats for milk, cheese, and soap making, solar and hydroelectric power, and education hikes and involvement in these food and energy processes are all available at this destination in the mountains. The people working at this site live by example and are enthusiastic about their beautiful surroundings. The reserve only allows a maximum of fifty people (including their 20 community staff) to be staying at the site at a time. Their land is vast, yet they have small dorms for tourists to stay in. Here I learned about the butterfly species, wild cats, and the lifestyle of the community. I could not see a real negative impact from this lifestyle and ecotourism site.

Overall, I saw a wide range of ecotourism throughout the country of Costa Rica. It varies from each of the seven provinces (see appendix H) and each individual ecotourism site. It becomes obvious when a destination is not making an effort to be sustainable. I believe that overall, the country does a good job with managing ecotourism destinations and tourist influx, but there is a lot of room for

improvement. If the ecotourism industry continues to grow as it has in recent years, Costa Rica will need to implement more policies to ensure the environment is accounted for and not destroyed by eager tourists. I am hopeful about the future of ecotourism in Costa Rica, however, because I see the knowledge and passion in the Costa Ricans. Their values seem to lie in environmental protection and quality of life, not the bottom line profit.

Discussion:

The thesis questions investigated throughout the research and investigation in Costa Rica are: *what are the impacts of ecotourism on the environment of Costa Rica? What are factors that allow for a sustainable ecotourism site?* Through in-depth semi-structured interviews and personal observations it has been revealed that there are strengths of ecotourism and its impact on the environment, as well as weaknesses. This particular investigation concludes that ecotourism does more good than harm towards the environment. Additionally, the findings highlight management as a predictor of environmental sustainability.

Ecotourism in Costa Rica has a number of environmental strengths including: conservation and protection of land, a general social consensus among Costa Ricans that environmental protection is a positive investment, environmental education of tourists that visit and communities living around eco sites, and ecotourism often allows for the community to be involved in protection of species, conservation efforts, and income generation to maintain the site. When ecotourism is done in a way that highlights these strengths, it is likely that there will be minimal negative impact on the natural environment.

Some of the negative impacts ecotourism can have on the environment result from management not enforcing sustainable limits and this often leads to overdevelopment, pollution, and leaves species in danger. When management ignores the carrying capacity of a destination the impacts are diverse and broad. Another weakness of ecotourism is the difficulty to make all sectors of ecotourism eco-friendly. Including transportation, food, hospitality, and waste management.

It has been exposed that a key predictor of environmental impacts is the type of management in place and what their mission is for the ecotourism destination. If the management has the vision to maintain the integrity of the land, incorporate the local communities into the conservation process, educate tourists about the land and species, and have environmental choices (recycling, composting, etc) conveniently in place for visitors, the destination is likely to have minimal negative impact on the environment. This form of sustainable management will have limits in place so carrying capacity is not exceeded. Management types aiming to maximize profits often lack this vision to minimize environmental impacts. This may result in overdevelopment or obvious negative impacts on the land and species. For example, some species are beginning to become dependent on tourists for food. Throughout the interviews there was a consensus that management is a primary variable in the sustainability of an ecotourism destination.

The results of this investigation are supportive of previous research and academic investigations. The idea that effective management is a cornerstone to the sustainability of ecotourism is enforced in *Managing Sustainable Tourism: A Legacy for the Future* by Edgell (2006), "Any business plan for resort development should identify, from the beginning, a set of guidelines or standards that determine the carrying capacity of the project, area, available transportation, and other factors (p. 108)." Edgell continues saying,

> When the visitor and host population are both experiencing exceptionally crowded conditions, the upper limits of the carrying capacity have been passed, the negative

> effects of tourism become apparent, and the quality of the environmental and the tourism product begins to decline for both residents and visitors (p. 108).

This article signifies the importance of having an action plan or vision when developing an ecotourism site. The literature is supportive of managers of ecotourism sites who have established, promote, and implement their strategy of how to ensure a balance between the number of tourists and the environment so as to maintain the establishment for future generations.

The literature is also supportive of the findings that ecotourism should aim to have conservation goals and develop income that can involve the local community in these conservation efforts. It should additionally contribute money and education for the conservation of ecosystems (Gosseling 1999). Outlined in the article by Gosseling, *Ecotourism: a means to safeguard biodiversity and ecosystem functions?* is one example used to strike a balance between economics and ecosystem protection:

> Costa Rica, for instance, raised admission fees by a factor of 10 in 1994 (from $1.5 to $15 for foreign visitors). In consequence, visitor numbers plummeted by an average of 44% in the following year, but total revenues increased substantially. This way, it was possible to combine the maximization of economic benefits and reduce the pressure on ecosystems. Admission fees are a means to keep the number of visitors within an ecosystem's carrying capacity, or to limit growth rates, so that planning, management and control measures are not outpaced by the development (P.316).

Overall, the findings and literature suggest that there is a fragile balance between influx of tourists and environmental protection. The findings exposed by the research presented in this thesis suggest that sustainable management is a way this balance can be fulfilled. This finding has been reiterated throughout previous

research as a main factor in maintaining the ecosystems surrounding the ecotourism destination. Sustainable management should have a clear vision to maintain the integrity of the land, involve communities in conservation efforts, and generate income to reinvest into environmental protection.

Conclusion:

"Costa Rica is one of most highly valued tourist destinations in this planet. This small piece of land includes all of the necessary components to satisfy the taste of thousands of travelers visiting each year (Costa Rica Tourism Institute)." Ecotourism is increasingly being employed by developing countries to increase their share in the global tourism business while preserving their natural resources. However, the environmental impacts of ecotourism, as well as increased tourism in general, are poorly understood. Ecotourism represents a positive alternative to traditional forms of land use, but in order for it to have the maximum benefits for those involved management must strike a delicate balance between development and conservation.

The goal of this research was to better understand the positive and negative impacts of the ecotourism industry in Costa Rica. Costa Rica, as a pioneer in ecotourism and conservation, is used in this thesis as a case study for the impacts of ecotourism. Four in-depth semi-structured interviews were carried out with Costa Ricans who had first hand knowledge of the tourism industry in their country, and the information they provided was supplemented with four months worth of personal observations. The data clearly indicates that ecotourism is a more environmentally friendly use of natural resources than, say, logging or industrial development. There are, however other questions to be considered. The presence of tourists in some of these delicate ecosystems can often do more harm than good, and overdevelopment in the name of tourism is too often the case. In the end, as all

the interviewees agreed, ecotourism is most beneficial to the local populations and the ecosystems when there is good management with a clear vision of environmental stewardship in place.

Future research should be conducted to better understand the ecotourism industry in Costa Rica and the interrelation among cultural/ social, environmental, economic and political structures. If research is to include in depth interviews, one should be aware that using a formal informed consent form leads to cultural misunderstanding. The informed consent form proved to be a barrier in my research and in the future I would use a letter of consent requiring no signature. I also recommend a background and advanced level of Spanish to ensure peak communication.

Appendix A: Informed Consent

Title of Student Research Project: *Ecotourism in Costa Rica*

Dear Participant,

I am asking for your voluntary participation in my Senior Thesis Project about Ecotourism in Costa Rica. Please read the information below about the project. If you would like to participate, please sign this form. Thank you in advance for your time.

Purpose of the project: The purpose of this project is to better understand the ecotourism industry in Costa Rica. This project will allow for improved understanding about how native Costa Ricans perceive the ecotourism industry's impacts on the culture, environment, and economy of the country.

Participation includes: Answering interview questions to the best of your ability. Participants are free to ask questions at anytime. The interview will occur at an agreed upon location and time.

Time required for participation: The time required to complete this interview ranges between 15 minutes to one hour.

Risks: There are no known risks with this project.

Benefits: Participation in this study will allow for a better understanding of the Ecotourism industry in Costa Rica.

Participation in this study is strictly voluntary. If you decide not to participate there will not be any negative consequences. Also, if you decide to participate, you may stop participating at any time.

All responses you provide will remain confidential. The researcher will not share any information (e.g. name and email) with anyone, and the results of this study will be reported in aggregate form (e.g. means and percentages).

By answering the questions I am attesting that I have read and understand the information above and freely give my consent to participate.
Sincerely,
Emily McKeone
Student Researcher/ Contact Information: Emily McKeone/ emilymckeone@yahoo.com
Advisor/ Contact Information: Dr. Christina Falci / cfalci2@unl.edu
Participant's Printed Name: _____
Participant's Signature: Date:

Appendix B: Interview Questions

Ecotourism in Costa Rica Interview Questions

1.) How does ecotourism impact the economy in Costa Rica?
2.) Does the money stay in the local economy or does it goes outside the country?
3.) Does ecotourism reduce the unemployment rate in Costa Rica in a significant way?
4.) Has there been a reduction in poverty rates due to employment generated by the ecotourism activity?
5.) Do you feel that the ecotourism industry does more harm or good in regards to environmental conservation and long-term sustainability? Please provide specific examples of this.
6.) Is the money generated from ecotourism ever used to instigate community projects toward conservation and sustainability? Can you provide an example of a project like this?
7.) What are the main weaknesses of the industry in environmental protection?
8.) What are the strengths?
9.) Is the money generated from ecotourism used to further conservation efforts in Costa Rica; or is the money more used to further development?
10.) What are the direct impacts on the environment as a result of the ecotourism industry?
11.) How have local cultures and traditions been affected by the ecotourism industry? Please provide examples.
12.) Do you perceive that the influx of Westerners has instigated some of the westernization in Costa Rica?
13.) Do you feel that local people are often resentful towards the mass influx of tourists? Please you provide specific examples of this.
14.) Have the local culture(s) within the country been transformed to adapt to ecotourism? Please provide specific examples.
15.) How do salaries in ecotourism compare with other activities in Costa Rica?
16.) Demographically, what are the characteristics of the people hired by the ecotourism sites?
17.) What types of regulations are the eco sites subject to and from which Institutions?
18.) What does it take to be classified as an ecotourism site or development?
19.) Do you think that ecotourism is an effective way for other countries to develop economically, while protecting their environment? Why or why not?

Appendix C: Email Interview Informed Consent

Title of Student Research Project: *Ecotourism in Costa Rica* Dear Participant,

I am asking for your voluntary participation in my Senior Thesis Project about Ecotourism in Costa Rica. Please read the information below about the project. If you would like to participate, please email the answers back to me. Thank you in advance for your time.

Purpose of the project: The purpose of this project is to better understand the ecotourism industry in Costa Rica. This project will allow for improved understanding about how native Costa Ricans perceive the ecotourism industry's impacts on the culture, environment, and economy of the country.

Participation includes: Answering interview questions to the best of your ability.

Time required for participation: The time required to complete this interview ranges between 15 minutes to one hour.

Risks: There are no known risks with this project.

Benefits: Participation in this study will allow for a better understanding of the Ecotourism industry in Costa Rica.

Participation in this study is strictly voluntary. If you decide not to participate there will not be any negative consequences. Also, if you decide to participate, you may stop participating at any time.

All responses you provide will remain confidential. The researcher will not share any information (e.g. name and email) with anyone, and the results of this study will be reported in aggregate form (e.g. means and percentages).

By answering the questions I am attesting that I have read and understand the information above and freely give my consent to participate.

Sincerely,

Emily McKeone

Student Researcher/ Contact Information: Emily McKeone/ emilymckeone@yahoo.com

Advisor/ Contact Information: Dr. Christina Falci / cfalci2@unl.edu

Appendix D

Tourism Impact on Costa Rican Export Economy

Activity	1995	1996	1997	1998	1999	2000	2001
Total Exports	$3,475,900	$3,758,400	$4,205,500	$5,525,600	$6,640,800	$5,879,600	$5,005,900
Tourism	$659,600	$688,600	$719,300	$883,000	$1,036,100	$1,229,200	$1,277,600
Tourism/ Exports	19.0%	18.3%	17.1%	16.0%	15.6%	21.0%	25.5%

Source: Costa Rica Tourism Institution

Appendix E

Tourist Growth in Costa Rica and Visitation to Natural Areas

	International Tourists at SJO	Tourists that visit a natural area	Tourists that visit a National Park	Tourists that visit other natural areas	Percentage of Tourists that visits a natural area
1994	558,263	301,462	138,923	162,539	54%
1995	579,457	237,577	109,483	128,095	41%
1996	555,139	227,607	104,888	122,719	41%
1997	567,950	221,501	102,074	119,427	39%
1998	640,751	256,300	118,111	138,190	40%
1999	699,676	300,861	138,645	162,215	43%
2000	769,147	323,042	148,867	174,175	42%
2001	774,221	340,657	156,985	183,672	44%
2002	767,699	345,465	159,200	186,264	45%
2003	887,711	470,487	216,814	253,673	53%
2004	986,009	522,585	240,822	281,762	53%

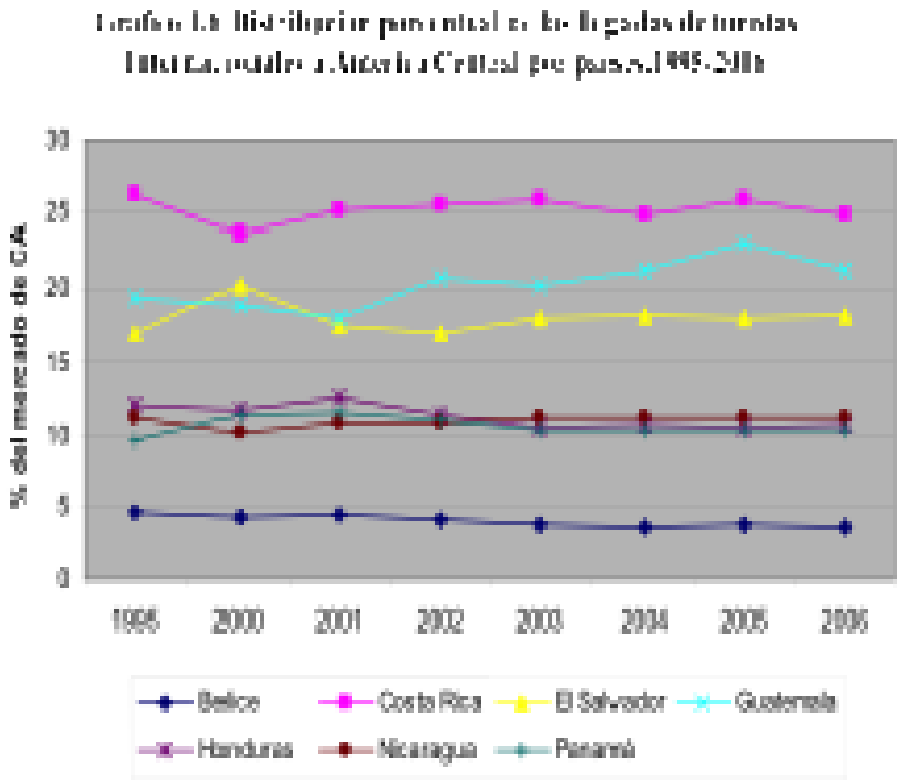
Source: Costa Rica Tourism Institute

Appendix F

Source: Map of Costa Rica's National Parks, Wildlife Refuges, Biological Reserves, Wetlands and Private Nature Reserves. (©2006 Toucan Guides)

Appendix G

This graph displays the percent distribution of international tourist arrivals in Central America per country from 1995-2006 Graph from the Costa Rica Tourism Institute website.



Appendix H:

Map of Costa Rican Provinces:

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