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COMMUNITY IMPACTS OF COASTAL TOURISM IN THE DOMINICAN REPUBLIC

BY

YOLANDA M. LEON

A DISSERTATION SUBMITTED IN PARTIAL FULFILLMENT OF THE

REQUIREMENTS FOR THE DEGREE OF

DOCTOR OF PHILOSOPHY

IN

MARINE AFFAIRS

Abstract

The present work presents the results of survey research conducted in 23 coastal communities of the Dominican Republic to evaluate the impacts of tourism and also the evaluation of a particular co-management system of a tourism-related activity (whale watching in Samaná Bay). Major findings include that tourism is having a positive impact on rural livelihoods as measured by increased household income, and higher levels of job satisfaction (and in the case of female-headed households, also improved material well-being). We also evidenced strong local support for the tourism industry caused by wide agreement on perceived tourism benefits; however, residents are also concerned about increases in prostitution (particularly child prostitution), drug use, crime, alcoholism, deterioration of moral values, and an increasing foreign influence on the communities. The study also identified personal and community factors that affect local perceptions of tourism and the likelihood of having a tourism-dependent occupation. Of these, the level and type of tourism seem the most relevant. Regarding whale watching co-management, the system implemented in Samaná appears to be fairly successful, and provides an example of the role external agents (in this case a non-governmental organization) can play in establishing such regimes, as well as suggests the importance of tourism in generating incentives for resource management at the local level.

Acknowledgements

I'd like to express my sincere appreciation for the guidance and support provided by my committee: Drs. Richard Pollnac, Tim Tyrrell, Seth Macinko and Larry Juda. Also, to my wonderful field assistants, Cecilia Germosén, Daniel León, Carlos Sánchez and Héctor Andújar. I'd also like to thank my parents, Jaime and Yolanda for all their support on my studies. Thanks also to the Marine Affairs Ph.D. students; to Braxton, and Amy, for sharing so much; also to Sue Myette, for all her help. Finally, I would like to thank the American Association for University Women, for allowing me to carry out my studies during the past year through funding from one of their International Fellowships.

Preface

This dissertation is a compilation of three manuscripts, and is organized according to the University's "manuscript format" requirements. The first chapter provides an introduction to the topic with an overview of tourism in the Dominican Republic and lays the foundation for the central research of the dissertation. Chapter Two presents a study of the influences of tourism on rural livelihoods. Next, Chapter Three focuses on tourism perceptions of rural residents and the personal and community-level variables that influence them. In Chapter Four, the evaluation of a co-management scheme implemented for whale watching is presented as a case study related to my central research topic. Finally, Chapter Five presents and overview of findings, with a discussion on implications of the combined research.

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Chapter One. Introduction.

Tourism in the Dominican Republic

Introduction

Coastal zones around the world play a key role in socio-economic development and are of outstanding ecological importance (Cicin-Sain & Knetch, 1998). These characteristics generate a broad range of multiple-use conflicts, many of which are common to very different coastal countries. Reflecting this, Agenda 21, the comprehensive plan of action adopted during the 1992 United Nations Conference on Environment and Development called for the integrated management and development of coastal and marine areas (United Nations, 1992). Within the management activities Agenda 21 puts forward for accomplishing this goal is the integration of sectoral programs on sustainable development for settlements, agriculture, tourism, fishing, ports and industries affecting the coastal area. Similarly, Cicin-Sain and Knecht (1998) define the intersectoral integration among different coastal and marine sectors as one of the necessary dimensions for achieving integrated coastal management.

Despite such broad agreement on the importance of intersectoral integration, each country faces a different mix of competing sectors for determining uses and management of their coastal zones. And each of these sectors carries different weights in national policy agendas. In particular, international tourism has been given increasing attention as an important sector for growth in many developing countries, as it is considered a sustainable, non-consumptive development option (e.g. Brohman,

1996; de Kadt, 1979). It is argued that tourism allows for the use of areas, which are otherwise of low value, such as remote beaches, but perfectly meet the demands of the growing travel industry. As a consequence, coastal zones have been at the forefront of tourist infrastructure development, and an increasing number of developing countries in the tropics now focus on tourism to generate additional jobs and income, raise foreign exchange earnings and diversify the economy (Gossling, 2000). If managed properly, tourism is believed to initiate and support local development, while transferring capital resources from the developed to the developing world (Telfer, 2000). This means that tourism is acquiring a dominant role in determining policy decisions around these countries' coasts. However, little research has been conducted to evaluate the factors affecting tourism's true potential for the development of these nations, especially at the community level.

The Dominican Republic (DR) is an outstanding example of a developing country experiencing rapid international tourism development that can help test hypotheses on tourism's role in developing countries. Symansky and Burley (1975: p. 20) wrote

> The (DR), while tropical and attractive in amenity offerings and virtually first in western hemisphere historical precedents, is an outstanding example of a country that has benefited little from tourism. Among Caribbean countries, its tourism is in a stage of development that is appalling in number of tourists annually visiting the country and in available tourist infrastructure.

This situation dramatically changed during the last two decades, as tourism in the DR has grown to become one of its largest industries. With an average growth of

9 % in the volume of foreign visitors since 1993 (reaching 2.8 million last year; see Table 1) and an aggressive expansion of hotel capacity (currently approaching 55,000 rooms) that is already the region's largest, the DR is currently considered the leading tourism destination in the Caribbean. Also, the DR ranks within the top twenty countries in terms of visitor arrivals, tourism receipts, and percent contribution to Gross Domestic Product (GDP) when compared to other developing countries with significant tourism activity (Table 2).

Table 1.

Selected tourism statistics for the DR in recent years.

Year	**No. of foreign visitors**	**% Change**	**Available rooms**	**% Change**	**%GDP (millions US$)[a]**	**% Change**
1993	1,250,995	-	26,801	-	5.2	
1994	1,337,526	6.9	29,243	9.1	5.7	9.6
1995	1,471,339	10.0	32,846	12.3	5.7	0.0
1996	1,586,023	7.8	36,273	10.4	6	5.3
1997	1,812,275	14.3	40,453	11.5	6.5	8.3
1998	1,890,458	4.3	44,665	10.4	6.3	-3.1
1999	2,147,742	13.6	49,623	11.1	6.4	1.6
2000	2,459,586	14.5	51,916	4.6	6.8	6.2
2001	2,394,823	-2.6	54,034	4.1	6.4	-5.9
2002	2,308,869	-3.6	54,730	1.3	6.2	-3.1
2003	2,758,550	19.5	-	-	-	-

Source: Tourism Statistics from Banco Central RD (2004) and ASONAHORES (2003).
[a] GDP contribution shown here only includes the Hotel, Bar and Restaurant sector.

Table 2.

Top twenty developing country destinations according to selected tourism statistics.

International Visitors (2000)			Tourism Receipts (1999)			Tourism Contribution to GDP (1999)[a]		
Rank	Country	(Millions)	Rank	Country	(Millions $US)	Rank	Country	(%)
1	China	31.2	1	China	14098	1	Maldives	87.7
2	Mexico	20.6	2	Mexico	7223	2	Anguilla	71.1
3	Malaysia	10.2	3	Thailand	6695	3	St. Lucia	59.2
4	Turkey	9.6	4	Turkey	5203	4	Seychelles	49.2
5	Thailand	9.6	5	Indonesia	4710	5	Vanuatu	41.2
6	S. Africa	6.1	6	Brazil	3994	6	Barbados	41.2
7	Croatia	5.8	7	Egypt	3903	7	St. Vincent & Grenadines	33.1
8	Brazil	5.3	8	Malaysia	3540	8	Jamaica	31.5
9	Egypt	5.1	9	India	3036	9	St. Kitts & Nevis	30.9
10	Indonesia	5	10	Argentina	2812	10	Other Oceania	29.3
11	Tunisia	5	11	Philippines	2534	11	Fiji	27.7
12	Morocco	4.1	12	S. Africa	2526	12	Grenada	26.4
13	Argentina	3	13	DR	2524	13	Belize	26.2
14	DR	3	14	Croatia	2493	14	Mauritius	24.4
15	India	2.6	15	Morocco	1880	15	Dominica	24.2
16	Philippines	2.2	16	Cuba	1740	16	DR	23.6
17	Vietnam	2.1	17	Tunisia	1560	17	Jordan	22.6
18	Bahrain	2	18	Syria	1360	18	Kiribati	21
19	Uruguay	2	19	Jamaica	1279	19	Bahrain	16.9
20	Zimbabwe	1.9	20	Costa Rica	1002	20	Tunisia	16.1

Source: WTO/OMT (2001)
[a] GDP contribution shown seems to have been calculated by adding all tourism-related sectors of the economy (not just the traditionally used Hotel, Bar and Restaurants sector).

Tourism and Development

There are good reasons for paying attention to tourism as a potential source of growth and development in poor countries (Roe, Ashley, Page & Meyer, 2004; WTO/UNCTAD, 2001). First, it is a major world industry. If we include related activities, "tourism and general travel" are 11% of world GDP (Roe, Ashley, Page & Meyer, 2004). Second, tourism is growing faster in the developing world than elsewhere, as the data from the World Tourism Organization (WTO/OMT, 2001)

show. Third, many of the countries in which tourism is important are among the poorest and least developed in the world. For some of these, even if the number of visitors is insignificant in international terms, it may be the only or best export opportunity available.

Also, when compared to other sectors, tourism has numerous advantages for achieving development and particularly pro-poor growth (Deloitte & Touche, IIED, & ODI, 1999; Ashley, Boyd & Goodwin, 2000; WTO/OMT, 2002):

1. *Tourism delivers consumers to the product rather than the other way round.* This opens up huge opportunities for local access to global markets.
2. *Tourism has considerable potential for linkage with other economic sectors* (particularly agriculture and fisheries), and may even create initial demand for a good or service that can then itself become a growth sector. For instance, both Jamaica and Kenya provide examples in which furniture firms whose first major market was hotels have developed to provide other consumers (Roe, Ashley, Page & Meyer, 2004).
3. *Tourists are often attracted to remote areas with few other development options.* Such areas might be interesting to tourists because of their high cultural, wildlife and landscape values, which are assets that some of the poor have.
4. *Tourism provides relatively labor-intensive opportunities, at low skill levels.* Thus, tourism can represent an important strategy for quick job creation in many localities.

5. *Tourism employs a relatively high proportion of women and can contribute to gender equality.* This is mainly because tourism is characterized by a large service sector where demand for female labor is high and because women's assumed domestic skills give them an advantage over men (Chant, 1997).

6. *Tourism can provide poor countries with a significant export opportunity where few other industries are viable.* The large number of countries for which tourism receipts are important is evidence that it is a much less demanding sector in terms of initial conditions than many other sectors available to developing countries.

7. *The infrastructure associated with tourism development can provide essential services for rural communities.* Some examples include roads, electricity, communications and piped water, which are rarely provided to remote rural communities by the government or private sector in developing countries.

8. *It can take different forms, using different inputs.* Therefore it is available to a wide range of countries (and regions within a country).

Profile of the Dominican Republic

The Dominican Republic (DR) occupies the eastern two thirds of Hispaniola, the second largest island in the Caribbean, which it shares with Haiti. The DR's territory (48,380 square kilometers in total) is composed of mountainous terrain interspersed with fertile valleys (Fuller, 1999), and has a total coastline of 1,288 km,

of which 21 % (337 km) are sandy beaches. Its climate is semitropical, with a yearly average temperature of 27° C (Fuller, 1999).

Discovered by Columbus on his first voyage, Hispaniola was claimed by the Spanish crown and subsequently became the center for early colonization of the Americas. Within 50 years of 1492, virtually the entire population of Tainos, Caribs and smaller Indian groups was wiped out by disease and forced labor (Fuller, 1999). After being colonized by Spain, France, and finally Haiti, the DR gained its independence in 1844. Twentieth century life in the DR was shaped by United States intervention and occupation from 1916 to 1924 and again in 1965, and the rule of Dictator Rafael Trujillo for most of the period in between. Since then, another authoritarian president, Joaquín Balaguer, ruled the country for a total of 20 years, ending in 1996. The language spoken in the DR is Spanish, and a majority of the population (approximately 73%) is mulatto, a legacy of black slavery during the colonial period (Fuller, 1999).

Economy.

The DR is considered a developing country, according to the World Bank classification[1] and a medium level country in terms of the United Nations' Human Development Index classification (UNEP, 2003). Until the 1960s, the DR's economy was fundamentally agricultural, with sugarcane the dominant crop. In the late 1970s, a third of Dominican export earnings came from sugar and another 30% from coffee,

---

[1] In 2003, the DR had a per capita GDP of US$2,320 which is lower than the US$6000 line used by the World Bank. It is also lower than the Latin American and Caribbean average of US$ 3600 (World Bank, 2004).

cocoa and tobacco. Mining for nickel, gold and amber accounted in the late 1970's for 25 % of export earnings.

During the early to mid 1970s, the government borrowed heavily to finance public spending on infrastructure and monuments, while the price of sugar and other primary commodities fell and oil prices increased, causing a major economic crisis. Successive devaluation of the peso lowered wage rates, creating a key condition in the mid 1980s for attracting capital to its new export manufacturing zones, and tourists to the most affordable vacations in the Caribbean. The country started the transformation of its development model from one that provided protection and subsidies to particular sectors of the economy to one whose productive structure was completely export-oriented.

Starting in 1992, the Dominican economy grew at an unprecedented rate, becoming the largest and fastest growing economy in the Caribbean until 2001 (World Bank, 2002a).[2] Export manufacturing, tourism, telecommunications, and construction led the way in this expansion (Figure 1). By several accounts, this recent economic growth seems to have improved the quality of life of the average Dominican. The poverty rate at the national level has decreased from 38% in 1986 to 29% in 1998 (World Bank, 2001), and there have also been improvements in other indicators of welfare such as life expectancy, access to water and sanitation, and average educational attainment of the labor force (World Bank, 2000).

---

[2] Prior to 2001, the economy experienced ten years of annual growth exceeding 6 %, with the previous three years reaching over 8 %. Starting in 2001-02, a combination of external factors (the global economic slowdown and high oil prices), domestic policy weaknesses as well as a massive banking crisis in 2003, significantly slowed down the Dominican economy, resulting in negative growth in 2003 (World Bank, 2004).

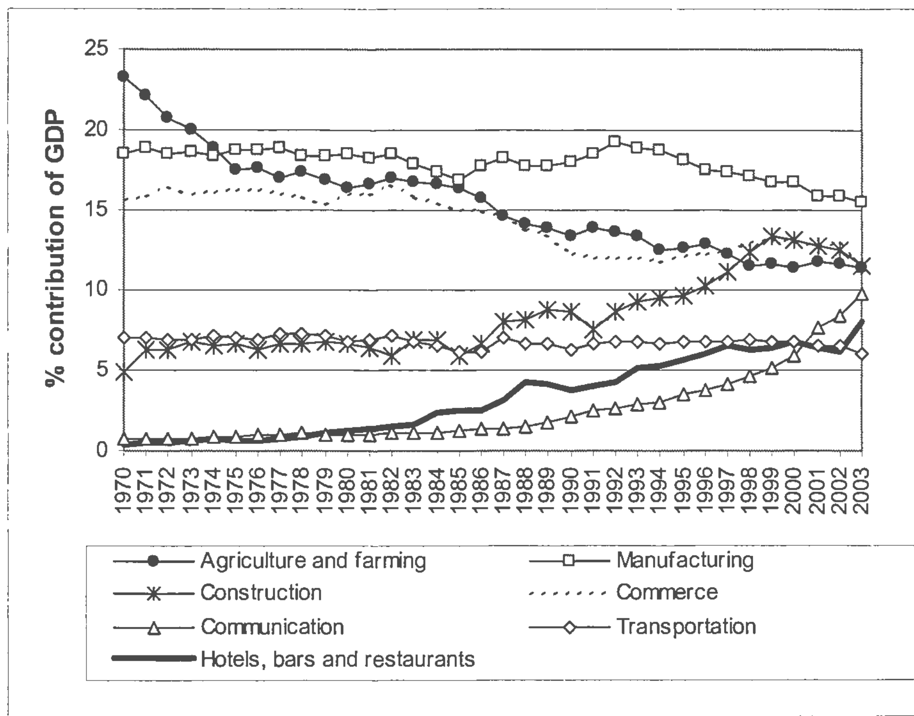

Figure 1.

Main economic sectors and their contribution to the DR's gross domestic product (GDP). Only sectors with an average contribution of 5% of higher after 1990 have been included. Source: Banco Central RD (2004).

Social indicators.

In spite of the DR's recent economic growth, an important sector of the population has not benefited from it. It is estimated that close to two million Dominicans still live in poverty (World Bank, 2001). Poverty tends to be especially severe in rural areas, where misdirected agriculture policies and insufficient public investments, particularly in education, limit opportunities (World Bank, 2000). Those able to achieve higher levels of education tend to migrate out of the rural areas leaving behind the most disadvantaged, creating in the process entrenched pockets of poverty.

Tourism development in the DR

According to La Hoz (1995), the historical development of Dominican tourism can be divided into three periods: governmental, mixed, and private-sector. We will discuss each briefly.

Governmental period (1944-1966).

In 1944, the country's first hotel, Hotel Jaragua, was built in the capital city, Santo Domingo, to accommodate the international guests attending the celebrations of the country's centennial of independence. By the mid-1950's, each of the country's provinces had a hotel built by the government. These hotels had no correlation with tourism demand, and were merely places where Rafael Trujillo, the country's dictator (from 1930-1960) could stay during his visits around the country.

In 1955, a second hotel was built in Santo Domingo, this time to accommodate the guests of the "Fair of Peace and Confraternity of the Free World", an extravagant celebration conceived by Trujillo to honor his government's achievements. In 1952, the General Directorate of Tourism (GDT) was created to define a national tourism policy, as well as deal with the problems related to this sector. At this point, all the hotels were managed by the State under the Hotel Corporation. In 1960, the National Association of Hotels and Restaurants (ASONAHORES, in Spanish) was created.

With the death of Trujillo in 1960 and the subsequent political unrest, tourism was almost nonexistent for a number of years. The next democratically elected president, Juan Bosch, attempted to create the institutional framework that would make tourism flourish. By a presidential decree, the government's hotels would now be managed by GDT, which was given institutional autonomy and legal recognition.

Bosch's government also sponsored education abroad for a number of college students to study hotel and tourism administration. However, this government was quickly overthrown, and the autonomy of GDT was stripped, becoming a department under the Ministry of Industry and Commerce. However, in 1965 it was placed again under the Executive Power.

Mixed period (1967-1979).

This period is characterized by a sustained and continuous arrival of international tourists to the DR. At the same time, the State gradually lost its central role in tourism development, which from this point forward has been headed by the private sector.

The year 1967 is considered the start of tourism development in the DR. At this time, the Dominican government solicited the work of foreign consultants to determine the possibilities (natural, socio-cultural and historic resources) that could be exploited to develop the tourism industry in the country. Three studies, one by the United Nations Educational, Scientific and Cultural Organization (UNESCO), one by the Organization of American States (OAS), and one by the Endes-Mendar Consortium (cited in La Hoz, 1995) provided a number of recommendations for the Dominican State.

In 1968, a presidential decree declared tourism development "a high national priority." [3] The government followed most of the consultants' recommendations. To this end, numerous decrees and laws were issued. One such law created the Ministry

---

[3] Presidential Decree No. 2536-1968.

of Tourism (SECTUR) in 1979.[4] According to this law, SECTUR's duties are "to plan, promote, evaluate and coordinate all tourism-related activities in the country, as determined by the Executive Power" (Law 84-1979, cited in La Hoz, 1995: p. 54). Also, one of its responsibilities is to provide advice on the design and construction of all the infrastructure required by the different tourism projects.

The State became involved in the construction of the country's tourism infrastructure, which included roads, hotels and tourism projects. A series of new decrees were issued to delimit the *polos turísticos* or designated tourism zones that had been suggested by the aforementioned consultants.[5] The definition of a *polo turístico* was that of "a deliberately delimited portion of the national territory, which concentrates a high level of visitor and recreational activities" (La Hoz, 1995: p. 56). Government planners rationalized that bringing facilities up to the level demanded by international tourists was more economically feasible in a few zones than in many dispersed locations.

In 1971, the *Law for Tourism Promotion and Incentives* was passed.[6] The objective of this law was to promote investment by the private sector interested in tourism development of the designated tourism zones now officially delimited (La Hoz, 1995: p. 57). Incentives aimed at foreign and national investors in tourism included tax breaks on capital, equipment and construction materials, and import

---

[4] Law No. 84-1979. In its preamble, the law that creates SECTUR (No. 84-1979) reads: "considering that the government must adopt all the necessary measures to promote and expand tourism, an important activity to the national economic and social development, particularly as a source of foreign exchange and employment, as well as its positive role in redistributing the national income"(La Hoz 1995).

[5] Presidential Decrees No.2125-1972, 3133-1973, 1157-1977, 2729-1977, 322-1991, and 16-1993.

[6] Law No. 153-171.

tariffs.[7] As could be expected, this law had a tremendous impact on tourism development by making it one of most lucrative industries in the country for both national and foreign investors.[8] In addition, in 1972, upon the recommendations of the IMF, in 1972 the Dominican government created an entity that would help finance the proposed tourism development: the Department for the Development of Tourism Infrastructure (INFRATUR), within the Central Bank of the DR (La Hoz, 1995). This department was given the task and resources to "execute, oversee, and manage tourism infrastructure activities in tourism hub number 2 (Puerto Plata)" (La Hoz, 1995: p. 54). Funding for INFRATUR came from international loans taken by the country (notably a US$50 million fund from the World Bank) and also from fiscal revenues.

Private sector period (1980-present).

During this period, the private sector became the manager of all resorts in the country. With the basic infrastructure in place[9] and a stable political climate, visitation to the country grew at a faster pace. Further, multiple devaluations of the peso while European currencies strengthened in the early 1990s combined to produce a tourism product that was very affordable (about half as expensive as Puerto Rico and Cancún). Also, at the end of this period, it was recognized for the first time that the

---

[7] However, ASONAHORES has debated the benefits of this law to hotel operations, given the complex bureaucratic procedures required to access the exemptions that are only used during the initial construction and equipment of hotels. They also argue that, even after acquiring these exemptions, some of the needed products for hotel operation were under import bans, which rendered them useless. Published letter on *Listín Diario*, 21 June 1990 (Annex in: La Hoz 1996).

[8] On the effect of this law, La Hoz (1996: p. 44) comments: "the state lost excessive tax collection, since many hotel owners, instead of importing construction materials and equipment themselves, transferred their tax exemptions to local providers that imported them, a system that has allowed for excessive use of the exemptions in many cases, with the local providers using them for their own profit." He also adds that "a number of luxurious homes were built with many of these items."

[9] Currently, the DR has 6 international airports, the largest at Santo Domingo, Puerto Plata and Punta Cana. The main roads and highways that connect most of the territory are also in good condition.

unrestrained growth of the sector was also having negative impacts, to the point that the World Bank even recommended halting hotel expansion (La Hoz, 1995). In 1990, the Inter-American Development bank financed a comprehensive tourism development plan for the country (La Hoz 1995), and government incentives for tourism development were phased out: in 1986 tax breaks were halved, and disappeared 1992. Finally, in 1996 the INFRATUR Fund was closed (Tejada, 1996).

Current Dominican Tourism Industry

Since 1993, a very good system of tourism data collection at the national and regional level has been developed by the DR's Central Bank and ASONAHORES. A summary of some of the tourism indicators monitored by these entities is shown for recent years in Table 3.

Visitor characteristics.

The tourism industry in the DR has traditionally appealed to middle-income tourists by offering inexpensive pre-paid packages from Europe. Tourists that come to the DR are generally young (70 % are under 45 years old) and evenly divided between men and women (Forsythe, Hasbún & Butler de Lister,1998). Most foreign visitors come from Europe and the United States (Figure 2). The majority of tourists come by air and stay for at least a week (Europeans average two weeks; Fuller, 1999).

Table 3.

Tourism-related indicators in the DR for recent years.

Indicator	**1999**	**2000**	**2001**	**2002**	**2003**
AIRPORT ARRIVALS					
Non-resident foreigners	2,147,742	2,459,586	2,394,823	2,308,869	2,758,550
Non-resident Dominicans	-	512,966	487,176	502,148	-
BY SEA ARRIVALS					
Passengers	283,414	183,220	211,433	246,992	-
Average expenditure (US$ x day)	-	-	53.4	-	-
AVERAGE TOURISM EXPENDITURES					
Non-resident foreigners (US$ x day)	102.5	101.5	102.2	104.5	-
Non-resident Dominicans (US$ x length of stay)	-	637.2	648.3	655.0	-
Resident Dominicans (US$ x length of stay)	-	-	860.3	-	-
AVERAGE LENGTH OF STAY					
Non-resident foreigners (nights)	9.7	10	9.82	9.65	-
Non-resident Dominicans (nights)	-	16.1	19.7	21.83	-
Resident Dominicans (nights)	-	-	15.8	-	
HOTEL ACTIVITY					
% Occupation rate	66.9	70.2	66.33	62.8	72.7
Tourist card sales (millions RD$)	330.6	385.6	375.0	384.8	-
Room tax (millions RD$)	-	-	19.7	-	-
Sales taxes from hotels, bars, and restaurants (millions US$)	445	448.8	712.6	718.9	-
Value-added of hotels, bars and restaurants (millions 1970 RD$)	392.4	450.0	439.3	443.1	574.2
Room price (US$)					
Direct jobs per room	0.92	0.92	0.9	0.8	-
Indirect jobs per direct jobs	-	-	2.5	-	-
Average wage in commerce, hotels and restaurants (RD$ x week)[a]	-	-	1152	-	-
NATIONAL ACCOUNTS					
Tourism revenues (millions US$)	2483.3	2860.2	2798.3	2793.8	-
Tourism expenses	-	-	286.6	-	-

Source: Banco Central RD (2004), ASONAHORES (2003), and DR1 Travel News (2004).
[a] Source: Observatori-DESC (2001).

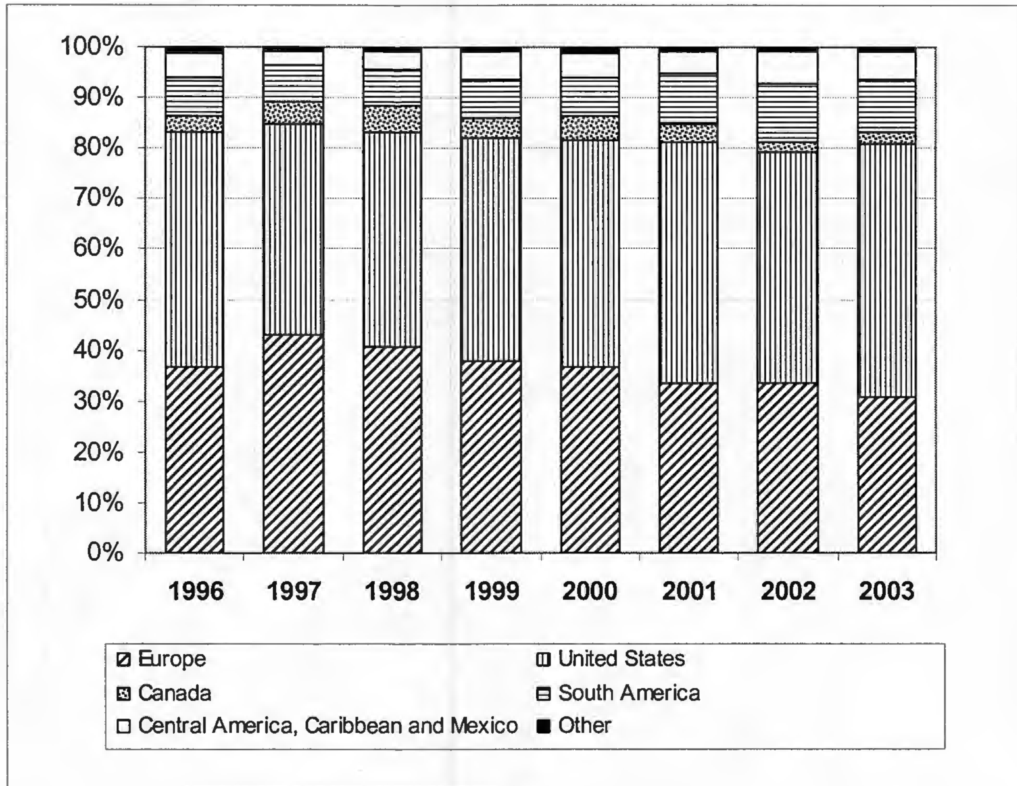

Figure 2.

Nationality of foreign visitors to the DR in recent years. Source: ASONAHORES (2003).

Visitor activities.

For an overwhelming proportion of international tourists (77%), enjoying the beaches was the predominant reason stated for visiting the country (Forsythe, Hasbún & Butler de Lister, 1998). Accordingly, tourist promotion and development for the DR has focused on its beaches. Playing golf and windsurfing are also important reasons for visiting certain resort areas. A number of day trips are offered in most hotels (varying with locality), involving such activities as a horseback riding, all-

terrain vehicle tours through dirt roads in the countryside, boat tours to offshore islands or remote beaches, biking tours, cave sightseeing, white water rafting, rappelling, snorkeling/diving, and whale watching (only during the winter).

Ownership.

During the early stages of tourism development, the Dominican tourism industry was distinguished by its strong domestic-owned component, setting it apart from tourism in many other Caribbean countries (Fuller, 1999). Thus, in 1987, only 21% of hotel rooms were estimated to be foreign owned (Economic Intelligence Unit, 1990, cited in Freitag, 1994). However, in more recent years, this situation seems to have changed. According to Tejada (1996), by 1996 the majority of hotels in the country, and 65% of those with more than 100 rooms, were foreign-owned. Tejada attributes this to the low rates that hotels in the DR have to charge to compete with other Caribbean destinations (under US$45/day for all inclusives; Girault, 1998). Thus, to be profitable, Tejada estimates that new hotels must have at least 300 rooms. Such large hotels require a significant investment. Given that local banks charge an average of 30% interest on loans, it is extremely difficult for Dominican investors to build this type of hotel. In contrast, European entrepreneurs (especially from Spain) were able to build many hotels in the DR by taking long term loans with soft terms in their home countries, profiting also from the credibility that their long experience in tourism afforded them. Currently, approximately 70% of the rooms offered in the country are concentrated in enclave-type resorts that have over 100 rooms (ASONAHORES, 2003).

Geographical distribution.

Tourism infrastructure has been developed in several areas. Initially, tourism development roughly followed the *polos turísticos* or designated tourism zones, but this is not the case anymore, as the designated zones have been gradually expanded and tourism development has also occurred outside of them. The areas where most vacation tourism activity is concentrated are shown in Figure 3. The capital city, Santo Domingo, mostly receives business tourism, but vacation tourists may also visit its colonial city for day trip purposes from other parts of the country.

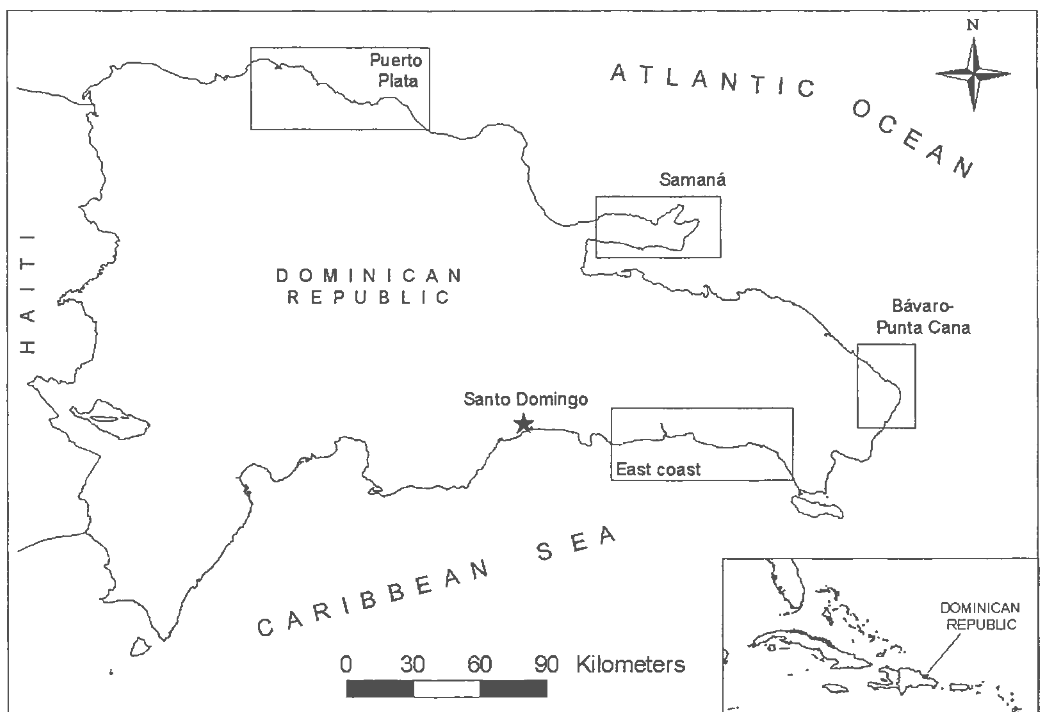

Figure 3.

Location of the DR and its major areas of tourism development (shown in boxes).

Tourism Research in the DR

Although opinion pieces on tourism and its effects in the DR are common in the popular media, there are relatively few academic studies on tourism in the DR. What studies do existe are examined briefly below.

In one of the early works on the topic of tourism in the DR, Symanski and Burley (1975) describe an extreme government project aimed at improving the tourism image of the country: the destruction of the traditional town of Santa Bárbara de Samaná to convert it into a "concrete mecca." According to the authors, the Dominican government was manipulating the spatial structure of Samaná and its environs so as to create a false impression about Dominican life and, more specifically, the squalid conditions and services available. Symanski and Burley lament that the history and sense of place of a small and warm Caribbean town was thus lost forever. A later analysis of this case by Yunén (1977) concluded that the welfare of the poor who were displaced by this project had not improved.

The relationship between tourism and agriculture in the DR's north coast was explored by O'Ferral (1991). She found that tourism was having little impact on local subsistence farmers because foodstuffs were being brought from other areas of the country, namely the central valley area of Constanza. Still, she highlights the positive fact that the DR, unlike most other Caribbean destinations, does not have to import most of the produce demanded by tourism. O'Ferral also saw an overall decline in local farming caused by tourism, as cattle farmers in the area had difficulty in hiring and keeping labor, and as land that had previously been agricultural was being increasingly targeted for tourism development.

Kermath and Thomas (1992) studied the spatial dynamics of the formal and informal economic sectors in the resort town of Sosúa, DR. These authors found that the tourism related informal sector was contracting as the tourism related formal sector expanded, and that displaced informal sector individuals were not likely to be absorbed into the expanding formal economy. On another related article, with R. Sambrook (Sambrook, Kermath & Thomas, 1992), these authors propose a resort typology for the DR and discuss the opportunities for the informal sector's participation in each. Their findings suggest in general, the limited opportunities that the enclave or "all inclusive" resort type had for locals.

Two authors provide interesting case studies on the general impact of tourism at the community level: Freitag (1994; 1996) and Báez (2001). Freitag explored the impacts of tourism on the community of Luperón, where he found that tourism had been a catalyst for improving the town's infrastructure, which allowed residents to seek out new economic opportunities. However, he also found that the majority of the poor had been increasingly marginalized as a result of inflation and environmental degradation associated with the development of tourist resorts. Also, many local inhabitants sense a loss of local hegemony and fear that tourism was disrupting the social fabric of community life. Freitag also discusses the limitations that enclave resorts impose on the growth of local tourism-related businesses, given the predominant operation plan of "all inclusive", in which all meals and drinks are provided by the resort. Thus, he concludes that the tourism industry in the DR could not be considered a successful form of national development. Similar conclusions were reached by Báez for the beach town of Boca Chica. Through interviews with

informants from the local authorities, the tourism sector and community groups, she concluded that the community remained marginalized and poor, having access to tourism's benefits only through small-scale or illicit activities (namely prostitution), calling into question the sustainability of the tourism industry there. Nevertheless, she conceded that tourism had also created some opportunities for the advancement of local women in the form of jobs and marriage opportunities with foreigners.

Forsythe, Hasbún and Butler de Lister (1998), through tourist surveys found that the spread of HIV was unlikely to affect the demand for tourism services in the DR. However, they determined that while most tourists probably do not engage in high HIV risk activities, there were some male and female tourists who do engage in sexual encounters with multiple Dominican sex workers and hotel employees (particularly entertainment staff), representing a health risk to the country and to the tourists' other sexual partners.

Sex tourism in Sosúa, on the Northern coast, has been the topic of three recent pieces: one by Cabezas (1999) and two by Brennan (2001; 2004). Both authors found that sex tourism had redirected migration patterns within the DR to Sosúa, as well as off the island by building new transnational connections (particularly to Germany). Both authors characterize female sex workers as young, poor, black, and single-mother heads of household, while their clients tend to be white, middle- or lower-middle class, European male tourists. Also, in their analysis, Cabezas and Brennan agree that sex workers try to use the sex trade as an advancement strategy, not just a survival strategy. Many hope to meet and marry European men who will sponsor their migration to Europe or will help them achieve socioeconomic mobility in the DR.

The impacts of tourism on the national economy were described by Díaz-Mora et al. (1999) using the new tourism satellite account system implemented by the DR's Central Bank.[10] Their results indicate that tourism and related activities contributed about 8% of the total economy in 1991 increasing to 11% in 1996. After hotels, bars, and restaurants, this accounting system revealed that land transportation was the most important sector benefiting from tourism. These authors also found that leakages (though imports of goods for tourism) diminished between 1990 and 1995 as local industry became increasingly interested in servicing the tourism market.

The environmental impacts of tourism development, particularly in beach areas are discussed by Castellanos and Bona (1994) and Abreu (1999). These include: beach erosion due to sand mining, destruction of reef structures, unwise construction practices near the shore; disposal of untreated sewage, runoff pollution from improvised garbage dump sites, loss of mangrove forests and filling of coastal lagoons and wetlands for hotel construction.

Insights into tourist's environmental attitudes are provided by Mercado and Lassoie (2002), who interviewed tourists leaving the airport in Punta Cana. Clean ocean water and beaches, quality of services, and price were the most important factors considered by the respondents before deciding to come to Punta Cana. However, tourists exhibited low levels of environmentally conscious attitudes. In particular, visitors showed little interest in the factors usually considered important for

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[10] Simply put, satellite accounts are "rearrangements of information from the national economic accounts and other sources for the purpose of analyzing specific economic activities more completely than is possible within the structure of the basic accounts" (Okubo & Planting, 1998: p. 8).

those interested in ecotourism (i.e. to enjoy and learn about local wildlife and culture), with some respondents being bothered by the word "learn." They argued they may have enjoyed but were not interested in learning about these resources. Although respondents agreed with the concept of recycling water, they disliked having low-pressure showers and preferred their towels to be changed daily. Almost a third of respondents did not participate in any recreational activity, and most stated that they just relaxed and enjoyed the beaches, sand, and sun.

Study Objectives

The preceding sections show that, while national-level statistics paint an optimistic picture of tourism benefits to the DR, the limited research available suggests that tourism is also bringing important costs to certain communities. These costs need to be considered if tourism is to be a viable development strategy favored over other coastal management options. Maximizing the benefits of tourism requires not just an understanding of national level statistics but also an awareness of internal factors that influence the outcomes of tourism at the local level.

This study is an attempt to fill the research gap on community-level impacts of tourism in the DR and other similar developing countries that can inform local, national, and international level tourism-related policies and coastal management decisions. To this end, we conducted gender sensitive research that combined quantitative, semi-quantitative and qualitative field work in a series of rural communities experiencing tourism development in coastal areas. In addition, we performed an in-depth case study of an innovative tourism resource management

scheme implemented in one coastal area. In particular, we were interested in 1) studying the relationships between tourism and rural livelihoods; 2) measuring the economic, socio-cultural, and environmental impacts of tourism in host communities as they are perceived by local residents; and 3) identifying the contextual variables that are important in determining the perceived tourism impacts, 4) drawing lessons for managing common pool resources that have tourism significance. Besides the immediate practical implications, this study also contributes to the theory on tourism and development.

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Chapter Two.

Impacts Of Tourism On Rural Livelihoods In Dominican Republic's Coastal Areas

Introduction

As in many other developing countries, poverty in the Dominican Republic (DR), and especially extreme poverty is concentrated in rural areas, with more than half of the poor households located in the countryside (Santana, 1998). Despite its decreasing contribution to the DR's economy over the last two decades, agriculture remains the main economic activity for the rural poor (World Bank, 2000). Agricultural productivity in the DR is low, with yields well below regional and world standards. According to the World Bank (2000), lack of extension work, insecure property rights, and a very concentrated ownership of the country's land in the hands of government and wealthy families are some of the main causes for this low productivity. Furthermore, farming livelihoods have recently been affected by the decline of the sugar industry as well as its subsequent privatization in 1999, which resulted in thousands of Dominican and Haitian men losing their jobs (Safa, 2002).

In addition to agriculture, rural residents of coastal areas also commonly engage in small-scale fishing as a complementary or full-time economic activity. Although less information is available on the fishing sector for the DR, there are indications of a steady reduction of commercially important species driven by over fishing, the use of destructive fishing methods and the rapid growth in the number of

fishermen, boats and fishing gears (Mateo & Haughton 2002; Herrera & Betancourt, 2003).

In the midst of this decline in the dominant rural sectors, the growth of tourism in the DR offers promise in providing alternative livelihoods to rural people. Indeed, increasing attention is being paid worldwide to the potential role of the tourism industry in reducing poverty, an approach that has been termed "pro-poor tourism" (Ashley, Boyd, & Goodwyn, 2000; Cattarinich, 2001). According to Ashley, Boyd and Goodwyn (2000), tourism has several advantages for pro-poor economic growth: 1) the consumer comes to the destination, thereby providing opportunities for selling additional goods and services, 2) tourism is an important opportunity to diversify local economies, and can develop in poor and marginal areas with few other export and diversification options, especially since remote areas particularly attract tourists because of their high cultural, wildlife and landscape value, and 3) tourism offers more labor-intensive and small-scale opportunities compared with other non-agricultural activities (Deloitte &Touche, IIED and ODI, 1999) and values natural resources and culture, which may feature among the few assets belonging to the poor.

Furthermore, it has been proposed that tourism labor could be an important opportunity for the advancement of women. Women's rural income earning opportunities in the DR are very few (Mones & Grant 1987). In fact, the extreme difference between female and male employment in the DR is one of the largest in the Latin America and Caribbean region (World Bank, 2002b). Tourism usually employs a relatively high proportion of women, mainly because tourist resorts are characterized by a large service sector where demand for female labor is high and because of the

existence of niches within hotel and restaurant work where women's assumed domestic skills give them an advantage over men (Chant, 1997).

Policy makers concerned with the poor have noted the importance of directing economic opportunities to female rather than male heads of household, since women in varying social contexts devote a higher proportion of income to family well-being, especially children's nutrition, rather than to personal expenditures when compared with men (Benería & Roldán 1987; Blumberg 1988; Chant 1985; Espinal & Grasmuck,1997; Raynolds, 2002). Beyond the benefits of improved family well-being and nutrition, female employment can also empower women at the individual, household, and community level. Increased control of household income in developing countries has also been linked to women's greater input into fertility and household decisions, and enhanced self-esteem (Bourque & Warren, 1981, Benería & Roldán, 1987; Blumberg, 1988; Raynolds, 2002). A number of case studies have shown that tourism jobs, by allowing many women to earn an income for the first time, have empowered them at the household and community level and helped them play an increasing role in local development (Chant, 1997; Cukier, Norris, and Wall,1996; Sinclair, 1997). In the DR, men make the majority of household decisions and most Dominican women feel that they have very little control over their lives (Brea & Duarte 1999). Thus, tourism's potential for improving women's and household well-being seems significant.

Another impact of tourism-related labor in small communities that is more subjective, is the change in resident's satisfaction towards his or her work. Job satisfaction is considered to be an important component in determining a person's

physical and mental health (Kornhauser,1965; HEW, 1973; Warr, 1987), as well as general well-being (Praag, Frijters, and Ferrer-i-Carbonell, 2003). The level of tourism job satisfaction has been hardly explored in the tourism literature, even though it might help explain resident's attitudes towards tourism even when other work-related variables (e.g. salary levels, work type, etc.) fail to do so.

The growth of tourism in the DR during the past decade provides an important opportunity to investigate many of the issues raised in the above discussion. This chapter presents the results of a household survey conducted in 23 Dominican coastal communities experiencing tourism development. Our broad goals are to relate issues central to the literature on livelihoods, tourism and gender. In particular, we want to know: 1) what is the current occupational profile of these communities in general and as it relates to tourism, 2) what are the effects of tourism dependence on the material position of households and job satisfaction, 3) which variables influence employment in tourism, in other words, who is more likely to benefit from tourism and why, and 4) are there gender differences in the observed livelihood impacts?

Methods

Twenty-three coastal communities were selected for this study (see Figure 4). A community was included in the sample provided it was: 1) within 10 km from the coast, and 2) tourism activities took place there or it was located less than 10 km from a tourism area. In addition, during preliminary field visits, we assessed different sites to ensure that they covered a range of conditions such as level and predominant type of tourism activities (day trip, beach-resort, domestic, windsurfing, second home, etc.).

Also, with only one exception, we limited our work to relatively small, rural communities (having less than one thousand households, according to the most recent census data available). Rural communities were preferred given that tourism has a far more visible effect in them than in urban areas (Lanfant 1980).

Data collection

We conducted a total of 822 face-to-face resident surveys in the visited communities from June to September of 2003. Four random starting points were selected in each community, and every other house along the left or right side (randomly chosen) of each street was visited. If a house was not occupied, then it was omitted and the next one visited. We selected for interviewing only heads of household or their spouses to ensure reliable household-level data was gathered. Interviews were conducted in Spanish by five trained local enumerators (including YML). Four out of the five enumerators had previous experience conducting household surveys. A pre-test of the survey was done in Andrés, where each of the enumerators was accompanied by YML to ensure they were conducting the survey using the same standard methodology. Also, this pre-test helped improve wording, omission and addition of certain questions, as well as the general layout of the questionnaire. The minimum number of surveys to be conducted in each site was pre-determined by calculating the sample size required to approximate the 15% confidence interval, with an alpha level of 0.05.

Although the survey included other aspects of tourism impacts, in this chapter the focus is on the demographic, material lifestyle, and occupational information obtained. Demographic variables for household members consisted of sex, age, place

of origin, marital status, occupation (and whether or not it was tourism related), education level, knowledge of a second language, skin color (on a 1- 10 scale from light to dark). Household income and material lifestyle variables were also recorded in order to characterize the material position of households. To estimate household income, we followed the DR's Central Bank's methodology from the most recent national household income and expenditure survey (Banco Central RD,1999). This involved asking respondents to provide the approximate monthly cash income for each of the economic activities in which household members were engaged. A maximum of three activities were recorded per member. Also, income received in the form of remittances from abroad, child support payments or other monetary support (from relatives, government, etc.) was recorded. The sum of all income reported for a given household was thus calculated. However, precise income data for some respondents was extremely problematic, given the difficulty they had in calculating how much they made in a month, since a part of their earnings was often non-monetary (or in kind, such as fish or produce obtained), and also in sorting out expenditures and auto-consumption of the goods produced or sold by the household. Also, in many cases the female spouse did not know her spouse's income. Accounting for these issues would have required a more detailed survey of household income and productive activities that was beyond the scope of this study. Material lifestyle variables consisted of a checklist of different home construction materials for the walls, roof and floor, household appliances (e.g., television, gas stove, refrigerator, etc.), and other assets (e.g. motorcycle, car, etc.). Finally, the survey also gathered information on job satisfaction.

Job satisfaction was measured by asking respondents the following yes/no questions: "are you happy with your current occupation?" and "would you like your son(s) or daughter(s) to have the same occupation as you?." Desired occupations for their children were explored using an open-ended question. A copy of the survey instrument, translated into English is presented in Appendix 1.

Data analysis

Relationships between variables were analyzed using standard parametric and non-parametric tests, such as Student's t-test, ANOVA, bivariate correlations, and Chi-square. Significance was determined at the 0.05 alpha level. We used factor analysis to analyze material assets and house construction materials to generate material lifestyle components and scales for every household. Factor analysis was conducted using the principal components method with varimax rotation and the Scree test (Cattell, 1966) to determine the number of factors. To determine the degree of fit between the factor analysis and the characteristics of the data, we used Keiser-Meyer-Olkin's (KMO) measure of sampling adequacy, which indicates the proportion of variance in our variables that is common variance (i.e. which might be caused by underlying factors), and Bartletts's test of sphericity (which tests the hypothesis that the correlation matrix is an identity matrix).

Logistic regression was used to identify associations between community or individual-level variables and having a tourism-dependent occupation. Model significance was determined using the Hosmer and Lemeshow goodness of fit test (which tests the null hypothesis that there is no difference between predicted and observed values of the dependent variable). Significance tests for individual

coefficients were performed using the Wald statistic (which has a chi-square distribution). We also report the odds ratio (OR), which is defined as the ratio of the odds of an event occurring in one group to the odds of it occurring in another group. For an odds ratio, one is the neutral value, meaning that there is no difference between the groups compared; close to zero or infinity means a large difference. All statistical analyses were conducted using SPSS 11.0.1.

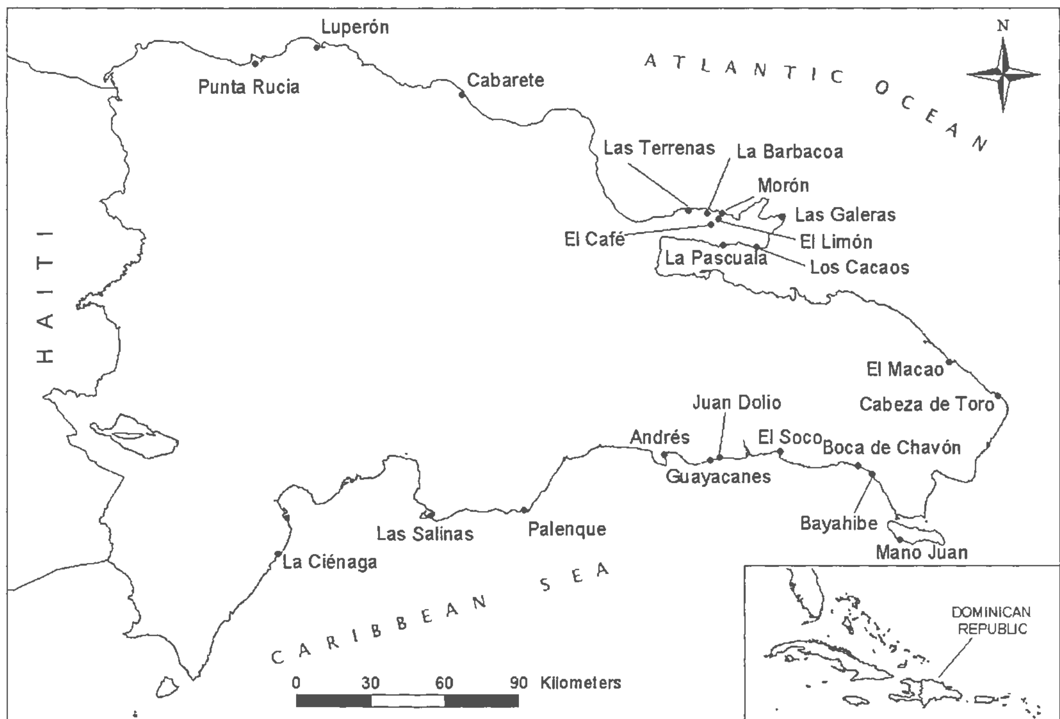

Figure 4.

Map of the Dominican Republic showing communities surveyed.

Table 4.

Community characteristics and sample size.

Community	Province	No. of households (1993)[1]	Population (1993)[1]	No. of surveyed households	Tourism activities level (1-10)	Total accommodation rooms in 2001[2]	Predominant tourism type
Andrés	Santo Domingo Este	6104	25790	44	10	1387	Beach-resort
Bayahibe	La Altagracia	225	827	35	10	2483	Beach-resort
Boca de Chavón	La Altagracia	86	255	31	2	279	Second home
Cabarete	Puerto Plata	803	3596	42	10	2135	Windsurfing
Cabeza de Toro[3]	La Altagracia	-	-	32	4	3782	Beach-resort
El Café	Samaná	33	158	34	9	0	Day-trip
El Limón	Samaná	258	1122	45	8	0	Day-trip
El Soco	San Pedro de Macorís	231	780	39	2	400	Beach-resort
Guayacanes	San Pedro de Macorís	617	2698	35	6	83	Dominican
Juan Dolio	San Pedro de Macorís	190	656	20	7	3209	Beach-resort
La Barbacoa	Samaná	80	351	31	5	227	Day-trip
La Ciénaga	Barahona	248	1152	37	2	105	Beach-resort
La Pascuala	Samaná	196	869	41	3	174	Second home
Las Galeras	Samaná	97	478	43	7	330	Beach-resort
Las Salinas	Peravia	185	787	31	4	33	Windsurfing
Las Terrenas	Samaná	833	3420	48	10	1102	Beach-resort
Los Cacaos	Samaná	313	1265	44	6	227	Beach-resort
Luperón	Puerto Plata	756	3014	64	7	757	Sailboat
Macao	La Altagracia	102	417	32	5	0	Day-trip
Mano Juan	La Romana	24	78	27	5	0	Day-trip
Morón	Samaná	32	151	19	2	0	Day-trip
Palenque	San Cristóbal	287	1042	35	9	21	Dominican
Punta Rucia	Puerto Plata	78	242	31	7	35	Day-trip

[1] Source: National census data (ONE 1997)
[2] Source: Inventory of tourism establishments in the DR for 2001 (Banco Central RD 2002)
[3] Note: This community was mistakenly merged with another near-by community in the 1993 census; hence we have no census data.

Respondent and household characteristics

Survey respondents were more or less evenly distributed between the sexes (55% male: 45% female; Table 5). Most respondents were of local origin and had mixed or dark skin color, conforming to the widespread racial mix of descendants from white Europeans with black Africans characteristic of Dominican society. Education level was relatively low: 58% of respondents had attained some level of primary education or less (mean years of schooling = 6.2, SD = 4.3). General literacy rate was about 91%, but for respondents older than the median (43 years), it was lower (84%). Most respondents (72%) were married or lived in a stable union. However, many households also included extended family members, especially grandchildren whose parents often worked in the city. The average number of persons living in a household was 3.7 (SD = 1.7). Only 14% of households were headed singly by a female. According to reported household income, about a quarter of the surveyed households can be considered poor, and of these, about 8% can be considered extremely poor. [11]

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[11] To establish poverty lines we followed the methodology presented by Santana (1998), in which poor households would be those that would have to spend over 50% of their income in the cost of the minimum food basket, and extremely poor households would be those having an income lower than the cost of the minimum food basket. Minimum food basket price (= RD$ 1946.34) was obtained by adjusting the minimum food basket cost for rural areas estimated in 1999 to inflation as of August 2003, using consumer price indices reported by Banco Central (www.bancentral.gov.do).

Table 5.

Individual characteristics of survey respondents. Total n = 822, but sample size can vary in some cases due to missing values.

Individual variables	**All**	**All**	**Women**	**Men**
Age (years)	(n)	(%)	(%)	(%)
18-30	143	19	57	43
31-40	203	26	41	59
41-50	186	24	45	55
51-60	146	19	43	57
>60	94	12	36	64
Occupation category				
Entrepreneur	66	8	56	43
Employee	144	18	51	49
Self-employed	418	53	25	75
Housewife	122	16	100	0
Retired employee	10	1	20	80
Labor in family business	11	1	100	0
Independent professional	4	1	50	50
Student	9	1	100	0
Relative skin color				
1-3 (light)	34	4	59	41
4-7 (mixed)	412	54	40	60
8-10 (dark)	320	42	49	51
Education				
None	71	9	45	55
Primary	371	49	43	57
Secondary	269	36	48	52
University	45	6	56	44
Marital status				
Single	78	10	27	73
Married/stable union	570	72	42	58
Divorced/separated	142	18	68	32
Sex				
Male	446	55	-	-
Female	365	45	-	-
Speaks second language	128	16	39	61
English	92	11	35	65
French	37	5	32	68
German	33	4	36	64
Italian	56	7	30	70
Haitian creole	29	4	31	69
Origin				
Local[1]	520	65	43	58
Non-local	278	35	49	51

[1] Local origin was defined as having been born in the local municipio or having lived there since at least age 10.

Productive activities

The most common, primary productive activity for over half of respondents consisted of some form of self-employment in non-professional, low-skilled occupations (Table 6 and Appendix 2). Of these, fishing and farming were the most frequent. Wage employment was the second most common main activity. Almost half of all wage earners were related to the tourism sector. Typical establishments of small business owners were *colmados* (small grocery shops) or food vending places such as bars, restaurants or *comedores* (local food vending places). Many of these entrepreneurs relied extensively on household property and/or labor without pay. Overall, in terms of skill level, 80% of respondents were engaged in typically unskilled or low skilled occupations.

Household income

When household income for all occupation categories is aggregated, both male and female-headed households seem to earn greater average incomes when the head of household had a tourism-dependent occupation (Table 7). This difference seems to be caused by the relatively large difference in income reported by tourism-related entrepreneurs. It is important to note that 24% of households received help in the form of income or food from direct or extended family in the DR (76%) or abroad (24%). Remittances from abroad mostly came from relatives living in Europe (especially Italy and Spain), followed by Puerto Rico and the United States. The average amount of monetary aid per month was $ 2734 Dominican pesos (n = 105, SD = 2340).

Table 6.

Main occupation category (coded from most important activity declared) of respondents and tourism dependence.

Occupation category	All (n)	All (%)	Non-tourism related (%)	Tourism-related (%)
Small business	66	8	62	38
Wage earner	147	19	51	49
Self employed	422	54	85	15
Family business	11	1	82	18
housewife	122	16	100	0
retired	7	1	100	0
student	9	1	100	0
TOTAL	**784**	**100**	**79**	**21**
TOTAL income generating activities[1]	**646**	**82**	**75**	**25**

[1] Note: only includes self-employed, wage earner, small business owner and family labor.

Table 7.

Mean household income by sex, occupation category and tourism dependence of head of household. Underlined figures indicate a significant difference between tourism dependent and non-dependent occupations. N = sample size, RD$ = Dominican pesos, SD = standard deviation.

Female-headed households		**Tourism dependent**			**Non-tourism Dependent**		**All Households**	
Occupation category	**N**	**RD$**	**SD**	**n**	**RD$**	**SD**	**RD$**	**SD**
Wage earner	18	4874	2845	14	4850	2592	4863	2693
Entrepreneur	8	15813	10295	3	6333	1528	13227	9709
Self-employed	4	5125	4008	29	3291	3078	3514	3188
Housewife	0	-	-	14	3210	1727	3210	1727
All occupations	30	7824	7483	62	3792	2722	5134	5185
Male-headed households								
Wage earner	71	8213	6778	56	7384	4730	7847	5955
Entrepreneur	16	24812	15803	23	9144	7520	15572	13866
Self-employed	66	9505	7685	314	8070	6093	8360	6428
Housewife	0	-	-	-	-	-	-	-
All occupations	153	10506	9772	393	8182	6466	8753	7326

Material lifestyle

Factor analysis of the variables related to home construction materials and assets produced two factors that accounted for 41% of the cumulative variance, which we named "solid home" and "appliances" (Table 8). Scores representing the position of households on each factor were created by summing the factor coefficients times the sample standardized variables. The convergent validity (i.e. the extent to which the material lifestyle scores correlate with other variables designed to measure the same thing) was tested by correlating these scores with household income. This resulted in significant, positive correlations with both scores (Pearson correlation coefficient between household income and *solid home* score = 0.20, $p < 0.001$, $n = 567$ and with *appliances* score was 0.21, $p < 0.001$, $n = 567$). Although significant, the correlations are weaker than expected.

In terms of material lifestyle scores, tourism-dependent households (both male and female-headed) had higher *solid home* scores (Table 9). Also, we found significantly higher *appliances* scores in female-headed households dependent on tourism than in those not dependent on tourism (with the exception of the entrepreneurs category).

Table 8.

Factor analysis results of material lifestyle variables. N = 695. KMO= 0.75,

Bartlett's test of sphericity = 6002.8.

Asset / material	***Solid home***	***Appliances***
Cement roof	0.81	0.06
Zinc sheet roof	-0.81	-0.05
Ceramic floor	0.73	0.03
Cement walls	0.67	0.22
Cement floor	-0.66	0.07
Toilet	0.65	0.39
Latrine	-0.61	-0.35
Wooden walls	-0.58	-0.29
Refrigerator	0.20	0.67
Television	0.11	0.61
Gas stove	0.04	0.60
Washing machine	0.13	0.59
Fan	0.17	0.59
Woodstove	0.00	-0.51
Phone / cell phone	0.27	0.42
Motorcycle /scooter	0.00	0.39
Radio	0.07	0.33
Cumulative variance explained (%)	**29.34**	**41.29**

Table 9.

Mean material lifestyle scores for tourism and non-tourism dependent households by gender of the household head. One standard deviation is shown in parentheses. Underlined figures indicate a significant difference($p < 0.05$) between tourism dependent and non-dependent households.

		Tourism dependent			Non Tourism dependent		All Households	
Female-headed households								
Occupation category	**N**	***Solid home***	***Applian-ces***	**N**	***Solid home***	***Applian-ces***	***Solid home***	***Applian-ces***
Wage earner	16	-0.30 (0.86)	0.16 (0.93)	13	-0.32 (0.45)	-0.48 (0.87)	-0.31 (0.69)	-0.12 (0.95)
Entrepreneur	7	0.61 (1.34)	0.62 (0.85)	4	-0.22 (1.01)	0.90 (0.33)	0.31 (1.25)	0.72 (0.69)
Self-employed	4	-0.24 (0.58)	0.04 (0.98)	24	-0.17 (0.65)	-0.32 (0.98)	-0.19 (0.63)	-0.27 (0.97)
Housewife	-	-	-	23	-0.08 (1.0)	-0.47 (1.28)	-0.08 (1.0)	-0.47 (1.28)
All occupations	27	-0.06 (1.02)	0.26 (0.91)	64	-0.17 (0.78)	-0.33 (1.09)	-0.14 (0.85)	-0.15 (1.04)
Male-headed households								
Wage earner	56	0.23 (0.98)	0.17 (0.95)	66	0.01 (1.09)	0.30 (0.81)	0.13 (1.07)	0.23 (1.24)
Entrepreneur	26	0.47 (1.07)	0.38 (0.88)	15	0.74 (1.31)	0.32 (0.95)	0.64 (1.21)	0.34 (0.92)
Self-employed	340	0.00 (1.01)	-0.05 (1.07)	61	-0.10 (0.95)	-0.08 (0.99)	-0.09 (0.96)	-0.07 (1.0)
All occupations	142	0.16 (1.0)	0.10 (1.0)	422	-0.04 (1.02)	-0.01 (0.97)	0.01 (1.02)	0.02 (0.99)

Note: the following comparisons were also made: Student's t-test between all male v. female-headed households: (solid home) $t = 1.34$, df 564, $p = 0.18$; (appliances) $t = 1.54$, df = 564, $p = 0.12$) and Student's t-test between all tourism dependent v. non-tourism dependent households: (solid home) $t = 2.01$, df = 653, $p = 0.04$; (appliances) $t = 1.95$, df= 653, $p = 0.05$)

Benefit opportunities from tourism

Fifty seven percent of respondents said they or someone in their family had benefited from tourism (through jobs, increased sales, demand for their services, etc.).

Also, many declared having received gifts (usually for their children) from tourists (54%).

Twenty six percent of heads of household (and 21% of respondents) had a tourism-dependent occupation. Stepwise logistic regression analysis revealed that certain individual and contextual variables were significant predictors of respondents having a tourism-dependent occupation (Table 10). These were: knowledge of a second language (not including Haitian creole), being younger than the median age (43 years), having a predominance of either "day trip" or "Dominican" tourism in the community, as well as higher levels of tourism development and rooms per capita.

Table 10.

Beta coefficients and odds ratios for significant predictors for respondents having a tourism-dependent occupation. N = 588. Hosmer and Lemeshow goodness of fit test =6.04, df = 8, p = 0.643. Overall fit of predicted to observed results = 78.7. Overall fit of predicted to observed results (using only significant variables, n = 640) = 80.6%. OR = odds ratio.

Variables	**B**	**S.E.**	**Wald**	**p**	**OR**	**95% CI**
Individual characteristics						
Speaks 2nd language	1.19	0.25	22.24	<0.001	2.20	2.01- 5.40
Older than 43	-0.64	0.22	8.21	0.004	0.53	0.34 - 8.18
Community characteristics						
Level of tourism development	0.17	0.04	15.24	<0.001	1.18	1.09 - 1.29
Day trip tourism	0.60	0.23	6.5	0.011	1.81	1.5 - 2.87
Rooms per capita	0.14	0.05	8.11	0.004	1.15	1.05 - 1.27
Dominican tourism	0.79	0.36	4.95	0.026	2.02	1.10 - 4.41
Constant	-2.77	0.37	55.41	<0.001	0.06	-

occupation for them would be, as opposed to asking them if they would like it if their children did the same as they did.

Table 11

Reasons cited by respondents for liking their current main occupation.

Reason	**Wage earner (%)**	**Entre-preneur (%)**	**Self-employed (%)**	**Housewife (%)**	**N**	**Total (%)**
Serving others	16	12	16	-	57	13
Earning money	36	30	27	-	112	26
Working environment	10	-	16	-	48	11
Socializing opportunities	15	8	6	-	33	8
Able to care for household	3	4	4	86	52	12
Being independent	6	42	22	7	84	20
Other	14	4	9	7	39	9
Total	**100**	**100**	**100**	**100**	**425**	**100**

Table 12.

Relationship between respondent's job satisfaction and having a tourism-dependent occupation. Underlined figures denote significantly different proportions of happy respondents with their occupations (Fisher's exact test).

Women					
Occupation category	**N**	**Tourism dependent (%)**	**N**	**Non-tourism dependent (%)**	**All (%)**
Wage earner	34	<u>97</u>	41	<u>78</u>	87
Entrepreneur	14	93	22	91	92
Self-employed	16	88	75	83	84
Housewife	-	-	108	66	66
Student	-	-	7	86	86
Family Business	2	100	8	63	70
All occupations	66	<u>94</u>	261	<u>75</u>	79
Men					
Occupation category	**N**	**Tourism dependent (%)**	**N**	**Non-tourism dependent (%)**	**All (%)**
Wage earner	36	92	34	88	90
Entrepreneur	11	100	18	94	97
Self-employed	49	96	271	90	91
Housewife	-	-	-	-	-
Student	-	-	-	-	-
Family Business	-	-	-	-	-
All occupations	96	95	323	90	91

Table 13.

Would you like your son(s) or daughter(s) to have the same occupation as you?

	N	**Tourism related occupations (%)**	**N**	**Non-tourism related occupations (%)**	**Total (%)**
No	91	59	421	80	75
Yes	62	41	108	20	25
TOTAL	153	100	529	100	100

Fisher's Exact Test, $\chi2= 25.6$, $p < 0.001$.

Table 14.

Occupation respondents would like for their son(s) or daughter(s).

Occupation	**N**	**%**
Professional (unspecified)	211	34.7
Medical doctor	57	9.4
Baseball player	54	8.9
Something better	51	8.4
Lawyer	45	7.4
Teacher	42	6.9
Tourism-related	37	6.1
Engineer	31	5.1
Whatever they like/don't know	19	3.1
Military	7	1.2
Mechanic	3	0.5
Other	51	8.4
Total	**608**	**100.0**

Discussion

Impacts of tourism on material well-being

Our results provide evidence that tourism-dependent households have, on average, a higher income than those who are not dependent on tourism. However, this difference does not seem to be caused by direct employment in the industry. In particular, small business owners, and to a lesser degree other self-employed residents seem to benefit the most. We can think of a number of reasons for this. First, a big advantage for small entrepreneurs in our study was that many were able to sell their traditional goods and services to tourists directly. Some examples include Doña

Miguelina,[12] who makes a nice profit by selling raw sugar and cocoa balls to foreign hikers in El Café for US$2 each; or Don José, who sells bottled drinks to tourists in Saona Island from his beachfront *colmado*; or Salustiano, who sells coconuts from his tricycle cart to international tourists in Guayacanes beach. In contrast, a study of informal micro producers in non-tourism areas of the DR by Espinal and Grasmuck (1997) found that this sector produced almost exclusively for the local market and sold predominantly to individuals in the neighborhood, which greatly limited their growth potential. In our study, the access of some occupations to trade directly with the international tourist market may well signify an important linkage with the national and global economy for these often remote communities, which can be greatly exploited to their advantage.

Second, tourists tend to pay more for goods and services, and often with the added benefit of doing so in foreign currency. Most international tourists do not have a good idea of local prices or current exchange rates (which can fluctuate daily) and according to residents, typically overpay for many goods and services. Many visitors also pay in foreign currency (or the current exchange equivalent of prices set in foreign currency). For example, we saw a shoeshine boy from Las Terrenas, received two euros for a shoe shine, a service normally valued at less than one tenth of that in any Dominican town. During the year of our study, the Dominican peso suffered a drastic devaluation losing about 42% of its value (from US$ 0.0480 to US$ 0.0279). This caused an extremely high inflation rate (estimated at 43% for the year). By

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[12] No real names have been used.

having access to US dollars and euros, many tourism-related workers were able to offset the impacts of the rapidly increasing local prices and maintain their standard of living, unlike the great majority of the population.

Nevertheless, many tourism employees (with the exception of bartenders, waiters/waitresses, and bellboys) are not usually in direct contact with tourists, and therefore do not benefit from gratuities, which could greatly improve their relatively low base salaries. Also, the type of tourism holiday offered in many Dominican coastal resorts of pre-paid "all inclusive packages" further reduces the potential for tips, as this makes tourists bring less spending money and often leave their wallets in hotel rooms because they do not need cash to eat or drink all day.

Gender differences

Our study also suggests that tourism brings higher levels of income and material lifestyle to female-headed households. In fact, significant differences in material lifestyle (in terms of having more appliances) were only detectable in female-headed households. These differences seem to support the conclusions of other researchers that female household heads tend to allocate a larger part of their earnings towards household expenses than male heads. The fact that we only noticed changes in terms of appliances in female-headed households suggests that benefits from tourism might still be relatively modest, not being sufficient for affording significant improvements in house construction. Similarly, Pollnac, Crawford, and Sukmara (2002) found improvements of material lifestyle in terms of appliances but not house

structure in Indonesian villages developing seaweed farming. There it was attributed to the relative recency of seaweed culture.

Nevertheless, some anecdotal observations indicated that women might still not be receiving the full benefits from tourism, lending support to the findings of Grasmuck and Espinal (2000) on the restricting effect of gender ideologies on working Dominican women. Some women complained that even though there were tourism-related jobs available to them, their husbands or partners did not let them work outside the house. Yudelkis, a young woman from Cabeza de Toro had to quit her hotel job because her spouse did not like her to be outside the home all day and did not want her to be in an environment where she could socialize with other men (especially foreigners). Chea, a woman from Las Galeras, felt that her spouse did not want her to work to prevent her from having her own money, which she could use to go to the hair salon and purchase nice clothes that might make her attractive to other men. This indicates that many women in these communities are still very subordinated to their male partners. Similarly, in a study of tourism impacts on women in Mexico, Chant (1997) found that some men had a hard time coping with their wives or partners economic independence and sometimes retaliated by either dropping out of work or scaling down their contributions to household income. This puts many women in a difficult position, as working outside the home already increases their workload, as they are still left with the majority of domestic tasks. Thus, prevailing gender ideologies seem to be keeping some women from reaping the benefits that work and tourism could provide.

Our research also documents a pattern of gender differences in terms of direct jobs in the industry that may also be limiting women's careers. As studies elsewhere have documented (Chant, 1997; Long & Kindon, 1997; Casellas & Holcomb, 2001), women in the tourism sector in the DR seem to be disproportionately concentrated within tasks most akin to their domestic labor, such as chambermaiding, waitressing and kitchen work, which have limited occupational mobility. In contrast, men are found across a wider range of positions with more possibilities for occupational mobility and tips. Nevertheless, our results concerning material position and job satisfaction (see below) make us agree with Chant (1997) in that, despite encountering many limitations, the mere fact that women have access to work is in itself a significant improvement for them.

Job Satisfaction

Tourism related jobs were responsible for higher levels of job satisfaction, particularly in the case of women. The higher level of satisfaction in women could be due to generally higher levels of job satisfaction that are found in women (Clark, 1997; Sousa-Poza & Sousa-Poza, 2000), but the lower satisfaction levels of housewives with their occupation could also influence these results.

The generally higher levels of satisfaction in tourism work could be related to some of the resident's ideas of a desirable job as expressed in the question "which occupation would you like for your son(s) or daughters". Besides the expected professional occupations, many respondents said they simply wanted "something better" for their children. When asked for more details on this answer, some stated that they wished their children could work in a clean environment, where they could wear

nice clothes and smell good, and did not have to work as hard as they did. Many hotels and tourism-related businesses might fit into this description.

Even though most tourism jobs were low-level positions with relatively low salaries, residents were still thankful for them. Receiving a steady income every month, no matter how small, was perceived as being advantageous. Hart (1973, p. 78) referring to the informal sector in urban Ghana, found that

> The most salient characteristic of wage-employment in the eyes of the sub-proletariat is not the absolute amount of income receipts but its reliability. For informal employment… is risky and expected rewards highly variable. Thus, for subsistence purposes alone, regular wage employment, however badly paid, has some solid advantages; and hence men who derive substantial incomes from informal activities may still retain or desire formal employment.

We find that Hart's reasoning helps account for the tourism job attitudes we encountered.

Who is benefiting from tourism?

Our research indicated that individuals with foreign language competency, who are relatively young, are more likely to have a tourism related occupation. On the side of the surveys, many residents expressed their frustration at not understanding what tourists were trying to say and often expressed a willingness to learn a second language, particularly English, as most tourists would know at least rudimentary English. The importance of knowing a second language to be able to participate in tourism benefits has also been found in other tourism studies (Chant, 1997; Ashley, Boyd & Goodwin, 2000). Thus, our research strongly supports the promotion of

foreign language education in public local schools as well as giving preferential treatment to private language schools in order to increase benefits to these communities.

Also, residents in localities characterized by Dominican tourists and day trip tourism, seemed in a better position in terms of obtaining tourism jobs. In communities exposed to international and domestic tourism (like Boca Chica and Juan Dolio) locals often mentioned how they preferred Dominican tourists, because they tended to be better customers for the local goods and services. According to Cattarinich (2001), very little research has investigated the effects of domestic and regional tourism in developing countries. Some observers contend that the promotion of domestic tourism may reduce leakages, fluctuations in tourist arrivals due to weather conditions or international political or economic crises, and possibly even negative socio-cultural and environmental impacts (Ghimire, 1997; Ghimire, 2001; Sha & Gupta 2000; Roe, Ashley, Page & Meyer, 2004). By bringing wealthy urban consumers to poorer rural areas, domestic tourism can bring important development opportunities. Also, while domestic and regional tourism in developing countries generally has been taken up by the more privileged classes, in certain parts of the world the "leisure class" is expanding (Ghimire, 2001). We found evidence for an increasing domestic market in the DR, especially during local holidays and the low season, when beach hotels and tour operators commonly offer discounts that are widely advertised in the local media. This not only allows many more Dominicans to afford a nice vacation, but it also helps tourism businesses operate year-round, offsetting some of the negative impacts of tourism seasonality. Also, because

domestic tourists may be more accustomed than international tourists to the food, accommodation and general comfort levels that the poor are able to provide, the poor have greater opportunities to cater to their needs (Shah & Gupta, 2000). Thus, policies aimed at increasing domestic tourism by means of promotion inside the country, seem particularly appropriate for achieving pro-poor tourism.

In terms of day trips, these were usually marketed for international tourists from resort areas via a tour operator. Even though the day trips were usually pre-paid at the hotel, they still seemed to generate much more interaction between visitors and locals, and thus more opportunities for benefits, especially in the form of providing tourists home cooked meals. Many day trips consisted of nature-based attractions (for example a scenic waterfall, lake or horseback / jeep-motorcycle tours across the countryside), sometimes combined with agro-tours (for example, of cacao or banana plantations in El Café). These are assets that many communities have and with the right training and a relatively small investment, can exploit. Sometimes to get to these attractions, tourists had to travel considerable distances by bus, indicating that there is significant interest by some of the tourists to experience more than what their beach resort has to offer.

Policy implications

The high percentage of self-employment and the low skill levels characteristic of most respondents' occupations support the findings of Kermath and Thomas (1992), which underscored the importance of the informal sector in understanding tourism benefits to local communities in the DR. These authors, by studying informal

tourism vendors in a Sosúa, DR, reported that their activities and areas of operation were increasingly being restricted and regulated by the local authorities. Although we could not find written official policies to this effect, in practice, this was very common in many of the communities we visited, namely under POLITUR, the Tourism Police. Similarly restricting regulation of the informal sector related to tourism has been documented in other developing countries (e.g. D'Amico-Samuels,1986, Dahles, 1999). Apparently, this stems from the idea of governments and formal sector operators that "informals" ruin the image of the vacation area for tourists, to which the only solution seems to eliminate them. As Dahles (1999: p. 5) pointed out, "whereas national governments in many developing countries promote tourism as a passport to development, the role that these governments attribute to the participation of small and micro entrepreneurs in this development is highly limited." This reflects the general Dominican government policy towards tourism, which has been characterized by deregulation at the formal level (effected by fiscal incentives and funding opportunities) countered with restricting regulation of local vendors and small entrepreneurs.

The general policy recommendations that follow from this study are that if tourism if going to help the poor, supportive policies need to be implemented toward the local informal sector in tourism areas (such as credit facilities), that education (particularly in foreign languages) and information necessary for entrepreneurs to generate a tourism product is made available to the community, especially in the form of day trips. Also, tourism-related regulations and legal measures should not stifle the local entrepreneurial initiatives. Lastly, the promotion of domestic tourism seems very

desirable. In our view, these approaches offer the best options for achieving more local community development based on tourism.

In spite of the optimistic results presented here on tourism's positive contributions to local livelihoods, we would like to end this chapter on a cautionary note. The surveyed communities are in a sense the "lucky ones." During our fieldwork, we were not able to conduct surveys on a few communities initially considered because they had dissappeared in recent years (this was particularly true in the Bávaro Punta Cana area in eastern DR). We were able to talk to former residents of Juanillo, one such community that had been recently displaced by a new luxury tourism project known as Cap Cana. According to residents, Cap Cana representatives offered them two choices: a house on a new housing project constructed for them, or a lump sum of money. When we visited the housing project, known as Nuevo Juanillo, or "New Juanillo," many residents manifested their inconformity with their new situation. Fishers were kept from working because the community was placed about 5 km inland, and also custodians restricted their access to the shore. Transportation to and from the project was also a problem. The *colmado* owners had lost business from the beach tourists, especially locals that came on the weekends. Many homes were already vacated or had been rented to the new project's staff, as there were few livelihood options there. Further, many residents were angry because their local cemetery had been bulldozed over and allegedly, only 8 human remains were returned to their respective families.

A number of studies have highlighted the often catastrophic effects of development-induced displacements in developing countries, given the impoverishing

effect they usually have on the displaced (Mahapatra, 1999; Cernea, 1997; Guggenheim, 1994). As Cernea (2003) argues, the conventional "remedy" of compensation often cannot restore destroyed incomes and livelihoods to where they would be in the absence of forced displacement. Furthermore, resettlement tends to break the social networks that are so crucial for the survival of the poor. Thus, we recommend that more attention be given to these issues, as the economic gains from tourism may not be compensated by such practices.

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Chapter Three.

Perceived Impacts of Tourism in Rural Coastal Communities of The Dominican Republic

Introduction

It has been widely accepted that for tourism to thrive it needs support from the area's residents. This is because residents tend to interact frequently with tourists, which makes their willingness to serve as gracious hosts critical for the tourists' satisfaction (Allen, Long, Perdue, & Kieselback, 1988). In fact, Var, Beck, and Loftus (1977) found that the attitude of residents toward tourists is one of the most important factors determining vacation enjoyment after natural beauty, climate, infrastructure, and lodging factors. Furthermore, over the years, experience has taught that without the cooperation, support, and participation of residents, it is hard to establish a sustainable tourism industry (Sirakaya, Teye, & Sömnez, 2002). Therefore, assessing residents' perceptions and attitudes toward tourism and tourists is crucial for the development and maintenance of a successful tourism sector (Ap, 1992).

But tourism perception studies do more than enable tourism managers to improve a destination's appeal to tourists. Policy makers are also interested in such studies because it has been well established that tourism can have profound impacts on the communities in which it takes place. Therefore, the attitudes and perceptions of residents provide valuable input in dealing with strategic decisions regarding tourism management and development (Allen, Long, Perdue, &

Kieselback, 1988). Often times, coastal zone use decisions tend to favor tourism development over other uses in the name of "benefiting the community," however, this assumption is rarely tested by consulting with the communities after the development has occurred. This problem is particularly acute in developing countries with top-down development cultures, where exclusion of residents' views from government decision making is a common practice (Sirakaya 2002).

Tourism perception studies

Early work on the perceived impacts of tourism tended to focus on the positive economic effects of tourism (Pizam, 1978; Mathieson & Wall, 1982; Keogh, 1989). However, in the 1970s, the consequences of tourism started to be examined more critically by anthropologists and sociologists (Young, 1973; Turner & Ash, 1975; Smith, 1977; Farrell, 1977). Among the major negative consequences of tourism noted are decline in traditions, materialism, increase in crime rates, social conflicts, crowding, and excessive dependency on the industrial countries (Dogan, 1989).

Another factor that has influenced more recent tourism perception studies has been an increasing concern by residents for tourism's environmental impacts (e.g. Liu, Sheldon, & Var, 1987; Johnson, Snepenger, & Akis, 1994; Baysan, 2001; Tosun, 2002). Given that the environment is such an important input into tourism, the maintenance of a "good" environment is essential for sustaining tourists' interest in a community. Although many studies have blamed tourism for a number of negative environmental impacts, in some places it has also been

shown to help improve the environment (OECD, 1980). Against this background of mixed impacts, in recent years, tourism perception studies have acquired a more balanced perspective, where both positive and negative perceived impacts receive attention (Liu & Var, 1986; Ap & Crompton, 1998).

Factors determining tourism perceptions

The literature on tourism perceptions contains many variables that have been shown or suggested to influence residents' perceptions and attitudes toward support for tourism development projects. Most of these can be grouped into community and personal level factors. Some of the community-level factors identified include: level of tourism development in the community (Butler, 1980; Doxey, 1975) extent of tourism concentration in the community (Pizam, 1978), type of tourism (Archer, 1973; Long & Kindon, 1997), and its rate of growth (Perdue, Long, & Kang, 1999). The personal determinants include variables such as native-born status in the community (Canaan & Hennessy, 1989), (Um & Crompton, 1987), length of residency in the community (Brougham & Butler, 1981; Liu, Sheldon & Var, 1987; Allen, Long, Perdue, & Kieselback, 1988), extent of resident-visitor contact (Brougham and Butler 1981, (Marsh & Henshall, 1987; Thomason, Crompton, & Kamp, 1979), economic reliance on the tourism industry (Pizam 1978;Madrigal, 1993; Mehta & Heinen, 2001), economic affluence (Jim & Xu, 2002), socio-economic class and social status (Husbands, 1989; Belisle & Hoy, 1980), ethnicity (Mehta & Heinen 2001), age (Brougham & Butler 1981), and education level (Mehta & Heinen 2001). Furthermore, gender

has started to emerge as an important variable, as tourism has been reported to have positive impacts on the status of women (de Kadt, 1979; Chant, 1997).

Tourism perception studies in developing countries

The factors that influence residents' perceptions and attitudes toward tourism, as well as the nature and the extent of the impact, are likely to be different between developed and developing regions (Sirakaya, Teye, & Sömnez, 2002). Some authors have suggested that in developing countries, the economic benefits often do not reach the communities where tourism takes place, accruing instead to transnational corporations, non-local entrepreneurs, governments, and a small national elite (McQueen, 1983; Patullo, 1996). To date, the majority of tourism studies on residents' attitudes have been conducted in industrialized countries such as the United States, Canada, Australia, and several European countries. Studies in developing countries, and particularly in Latin America, are scarce (but see Belisle & Hoy 1980; Schlüter & Var, 1988).

The Dominican Republic (DR) is a developing country that has experienced a dramatic growth of tourism in recent years. However, according to (Báez, 2001), studies on the tourism potential of the DR have never taken into account the community dimension of tourism. This author then added that, "on the contrary, communities are considered a hindrance and the ideal solution would be that people from the community could not enter in any way into the tourism areas" (Baéz 2001: p. 27). Thus, tourism development in the DR is occurring at an alarming pace without taking into consideration the social, economic and cultural impacts it brings to the nearby communities.

In this study we measured perceived impacts of tourism in 23 rural coastal communities of the DR. Also, we attempted to identify individual and community-level variables that could help explain them. Investigating these phenomena in one country controls for some of the national institutional and cultural factors, offering more scope for exploring variations in other elements. The need for such comparative studies of tourism impact has been advocated by (Pearce, 1993: p. 22) who believes they "serve a very useful purpose in the search for generalizations ... by establishing more clearly the role of contextual and causal factors." Further, he argues that "comparative studies offer tourism researchers a way forward in a field still largely dominated by descriptive, ideographic work."(Pearce 1993: p. 23).

We selected the DR for this study given its impressive tourism development in recent years, and the relatively large number of communities that could be compared. Also, the DR serves as a representative example of tropical developing countries, which are the main targets of most current coastal tourism expansion around the world and are in greater urgency to improve human welfare. Ultimately, our research attempts to identify the conditions that make for a successful relationship between tourism and the local community. We recognize that there is no precise definition of what constitutes successful tourism. It could be defined in terms of economic benefits or an improvement in the environment (natural or built), or the preservation of socio-cultural values. Thus, the present study is an attempt to recognize the importance of each of these aspects in the opinion of residents toward tourism. Our intention was to assess changes

experienced in each of these aspects (as perceived by residents), and to evaluate their contribution to resident's attitudes towards tourism. Hopefully, this research will contribute to the fields of tourism and community development, particularly in coastal settings.

Methods

We conducted a total of 822 face-to-face resident surveys in 23 rural coastal communities with different levels and types of tourism (see Figure 3 and Table 4). Four random starting points were selected in each community, and every other house along the left or right side (randomly chosen) of each street was visited. If a house was not occupied, then it was omitted and the next one visited. Only heads of household or their spouses were interviewed to ensure reliable household-level data. Interviews were conducted in Spanish by five trained local enumerators (including YML). Four out of the five enumerators had previous experience conducting household surveys. A pre-test of the survey was done in Andrés, where each of the enumerators was accompanied by YML to ensure they were conducting the survey to the same standard methodology. Also, this pre-test helped improve wording, omission and addition of certain questions, as well as the general layout of the questionnaire. The minimum number of surveys to be conducted in each site was pre-determined by calculating the sample size required to approximate the 15% confidence interval, with an alpha level of 0.05..

Our survey instrument presented a series of questions that can be grouped into three categories: 1) perception of tourism impacts 2) general attitudes towards

tourism 3) household's demographic and material lifestyle information. To assess perceptions of tourism impacts in a general way, respondents were asked the following open-ended questions: "Which are the major problems in this community?" and "What do you like/dislike about tourism?" Then, to gather more quantitative information, we asked respondents to state their perceptions on 49 tourism impact variables derived from an extensive literature review. These variables were presented as a series of statements covering economic, socio-cultural, environmental-physical and infrastructure/public services aspects (both positive and negative). Respondents were then asked whether they agreed or disagreed with the statement. If they agreed, they were asked whether they simply agreed or they agreed "a little" or "a lot." This allowed us to group responses into a seven-point ordinal scale. Also, we examined general attitudes towards tourism by asking respondents two dichotomous (yes/no) questions regarding their overall attitude toward tourism: "Has tourism brought more positive than negative things to this community?" and "Would you like more tourism development in this community?"

Information on household demographics as well as occupation was also gathered since a number of these variables have been identified in the literature as being related to tourism attitudes. These variables included: sex, age, marital status, and education level. Material lifestyle variables and household income were also recorded to compare household material well-being across sites. Finally, we also gathered information on respondents' knowledge of a second language; skin color (on a 1- 10 scale from light to dark), job satisfaction and contact level

with tourists (defined as a 5 point scale of frequency with which respondent speaks with tourists –daily, weekly, once a month, rarely, never). A copy of the survey instrument, translated in English is presented in Appendix 1.

In addition to the survey data, we also collected information on community characteristics. These were: 1) community development, which we measured by a sum score of the presence of the following infrastructure or services: electricity, piped water, paved roads, a gas station, a pharmacy, a hospital, clinic or dispensary, a primary school, a secondary school; 2) population size and its growth (from the two most recent census data –1981 and 1993-); 3) start year of tourism; 4) level of tourism, determined by the field team during discussions after each field visit on a scale of 1 to 10; 5) total number of accommodation rooms available and their growth (according to the inventory provided by the DR's Central Bank for 2001 and a 1993 inventory provided by the National Association of Hotels and Restaurants -ASONAHORES); and 6) the relative importance of different types of tourism that took place in a community. This was determined by the field team after each visit, and consisted of assigning a percentage of each of the following types of tourism (day trip, Dominican, windsurfing, sailor, second-home, and beach resort), adding up to 100%.

Data analysis

Relationships between variables were analyzed using standard parametric and non-parametric tests, such as Student's t-test, ANOVA, bivariate correlations, and Chi-square. Significance was set at the 0.05 alpha level. Factor analysis was conducted to reduce tourism impact variables into fewer factors or components

that could be used to derive appropriate tourism impact scales, and also to analyze material assets and house construction materials to generate material lifestyle components and scales for every household. All factor analyses were conducted using principal components method with varimax rotation and the Scree test (Cattell, 1966) to determine the number of factors. To determine the degree of fit between the factor analyses and the characteristics of the data, we used Keiser-Meyer-Olkin's (KMO) measure of sampling adequacy, which indicates the proportion of variance in our variables that is common variance (i.e. which might be caused by underlying factors), and Bartletts's test of sphericity (which tests the hypothesis that the correlation matrix is an identity matrix). Also, we used stepwise linear regression to identify important factors in determining tourism perceptions at the community level. All statistical analyses were conducted using SPSS 11.0.1.

Results

Community problems

The coded responses for the open-ended question on major community problems show that deficiency or lack of public services, such as water availability and road condition were most frequently cited, followed by lack of employment opportunities and poor electricity service (Table 15). Interestingly, two problems mentioned were related to tourism. These were "Tourism Police" and "decrease in tourism. The Tourism Police (POLITUR) is a body of police-like wardens created to provide security to tourists in most of the country's tourist areas.

Table 15.

Major community problems according to residents. N = 799.

Problem	**Frequency**	**%**
Water availability problems	296	37.0
Streets/road condition	245	30.7
No employment opportunities	209	26.2
Poor electric service	172	21.5
Inflation	94	11.8
Poor/ lacking health services	87	10.9
Poor education facility/services	71	8.9
Crime	36	4.5
Wastewater management	27	3.4
"Corruption"	25	3.1
Garbage	25	3.1
No recreation or sport facilities	22	2.8
Politur / tourism authorities	19	2.4
No access to areas	12	1.5
Transportation problems	11	1.4
Poverty	9	1.1
Decrease in tourism	8	1.0
Other	82	10.2

Note: Percentages do not add to 100% because many respondents gave more than one answer.

Likes and dislikes about tourism

The great majority of respondents (96%, n = 806) mentioned at least one aspect they liked about tourism, while 65% (n = 786) mentioned something they disliked about it. There was widespread agreement on the economic benefits of tourism: many respondents said they liked the increased money or dollars circulating in the community and the new job opportunities (Table 16). Also, many respondents linked the presence of tourism to their village's recent or future progress, and some expressed the belief that without tourism, their community

would not be able to survive. In terms of dislikes, the most cited aspect was stated by residents simply as "corruption." Many respondents used this word to describe a general decadence in their community, usually caused by increased prostitution (of women, men, and children), crime, drug use, immorality and/or homosexuality. Other disliked aspects included prohibitions (especially of constructions or home repairs/improvements) and restrictions on the free access of residents to certain areas (usually the shore). POLITUR agents or hotel custodians usually effected these restrictions.

Tourism impact statements

In general, respondents agreed with the prepared statements presented to them on the economic, socio-cultural, and environmental impacts brought about by tourism (Table 17 and Table 18). In terms of changes in public infrastructure and services, there was general agreement that water service had not improved, while transportation services were the most improved (Table 19).

Table 16.

Aspects villagers like and dislike about tourism.

LIKE (N = 806)	**Frequency**	**%**
More money circulating	344	42.7
More job opportunities	243	30.1
Development/progress of village	86	10.7
Necessary for survival	45	5.6
More business opportunities	42	5.2
Friendship opportunities	30	3.7
More constructions/ infrastructure	19	2.4
New knowledge, cultures	17	2.1
Marriage opportunities	8	1.0
"Ambiance"	7	0.9
Other	33	4.1

DISLIKE (N = 786)	**Frequency**	**%**
More "corruption"	123	15.6
Brings many prohibitions for us	59	7.5
Limits our access to areas	59	7.5
Tourists appropriate everything	53	6.7
More crime	46	5.9
Differential benefits from tourism	45	5.7
Increases prostitution	36	4.6
Tourists bring diseases	25	3.2
"Sense of community" loss	25	3.2
Inflation	21	2.7
Tourists harm children	17	2.2
Tourists are immoral	16	2.0
Harm environment	15	1.9
Tourists are a bad influence	14	1.8
More drug use/ trafficking	13	1.7
Noise	12	1.5
Given us a bad reputation	8	1.0
Other	69	8.8

Note: Percentages do not add to 100% because many respondents gave more than one answer.

Table 17.

Summary of perceived economic impact variables by sex of respondent. N = sample size, % = percent agreement. Underlined values denote significant differences between the sexes (Fisher's exact test).

	Women		Men		Total	
Positive aspects	N	%	N	%	N	%
Income for locals has increased	372	88	450	84	822	86
There are more jobs for locals	372	<u>91</u>	449	<u>86</u>	821	88
Salary levels are good	347	75	433	77	780	76
There are more jobs for women	364	90	448	89	803	90
There are more informal job opportunities	371	75	429	76	819	76
There are more opportunities for local entrepreneurs	372	83	449	84	821	84
Negative aspects						
Price of a house has increased	372	94	449	95	821	94
Land prices have increased	372	<u>93</u>	449	<u>96</u>	821	95
Food prices are higher	372	98	449	98	821	98
There is an uneven distribution of benefits	372	80	449	78	819	76
Positive/negative aspects						
There are more jobs for young people	349	94	414	92	763	93
There are more jobs for Dominicans	372	87	449	90	821	89
There are more jobs for foreigners	372	<u>76</u>	449	<u>82</u>	821	80
There are more opportunities for Dominican (non-local) entrepreneurs	354	70	430	76	784	73
There are more opportunities for foreign entrepreneurs	353	<u>63</u>	429	<u>76</u>	782	70

Table 18.

Summary of perceived socio-cultural and environmental-physical impact variables of tourism by sex of respondent. N = sample size, % = percent agreement. Underlined values denote significant differences between the sexes (Fisher's exact test).

SOCIO-CULTURAL ASPECTS

	Women		Men		Total		Women		Men		Total
Positive aspects	N	%	N	%	%	**Negative aspects**	N	%	N	%	%
Progress for the community	372	83	450	83	83	Increase in crime	372	55	449	61	58
Improved quality of life	372	80	449	81	80	More prostitution	372	68	449	71	69
Women more independent	349	86	426	87	86	More HIV	357	78	434	73	75
More Local crafts demand	372	59	449	63	61	Increased alcoholism	372	93	449	87	90
More entertainment options	352	79	429	78	78	More drug consumption	372	66	449	67	67
More business diversity	372	53	449	58	56	Decline of moral values	372	54	447	56	55
More Dominicans visit	342	90	427	93	92	People only interested in money	372	87	449	91	89
More opportunities to meet people	372	91	449	93	92	Acquired bad reputation	372	34	449	45	40
Local traditions maintained	372	74	449	78	76	Limited access to areas	372	31	449	34	33
More involvement in decisions	372	58	449	69	64	People cooperate less	372	50	449	63	57

ENVIRONMENTAL ASPECTS

	Women		Men		Total		Women		Men		Total
Positive aspects	N	%	N	%	%	**Negative aspects**	N	%	N	%	%
Beach cleanliness	372	89	449	86	88	Beach erosion	372	38	449	37	38
Importance of natural resources	372	71	449	78	75	Noise	371	59	449	66	63
Beauty of community	372	92	449	90	91	Garbage	372	47	449	52	50
						Loss of agricultural land	372	57	449	65	61

Table 19.

Summary of perceived public infrastructure and services improvements by sex of respondent. N = sample size, % = percent agreement. Underlined values denote significant differences between the sexes (Fisher's exact test).

	Women		Men		Total
Improvements	N	%	N	%	%
Water service	372	36	449	41	39
Health service	372	<u>55</u>	449	<u>47</u>	51
Education	372	78	449	78	78
Police service	372	58	448	57	57
Electricity	372	60	449	67	64
Transportation	372	89	449	85	86
Paved roads	372	42	449	37	40

Tourism impact scores

To develop tourism impact scores for each respondent, we factor-analyzed the responses to all tourism impact statements in the survey (economic, socio-cultural, environmental-physical and infrastructure-services). This resulted in three factors that explained 44% of the cumulative variance (Table 20). Twenty-four of the 49 items loaded highly (0.40 or greater) on one or more of the factors. We named the factors "vice," "community benefits," and "foreign influence". These factors confirm two well-established domains (socio-cultural and economic) in the literature on perceived tourism impacts. A general distribution of the scores for each community is shown in Figures 5, 6 and 7.

Table 20.

Factor analysis results of intensity of agreement with tourism impact statements. N = 702, KMO= 0.853, Bartlett's test of sphericity = 7109.4.

Item	***Vice***	***Community benefits***	***Foreign influence***
Prostitution	0.85	0.02	0.24
HIV/AIDS	0.84	-0.03	0.17
Drug use	0.83	0.00	0.20
Crime	0.81	0.04	0.09
Alcohol consumption	0.69	-0.13	-0.06
Moral values have deteriorated	0.47	0.02	0.41
Types of businesses	0.43	0.36	0.33
Women's independence	0.41	0.34	0.03
Entertainment options	0.37	0.35	0.27
Noise	0.35	0.17	0.34
Progress of community	0.05	0.73	0.10
Jobs for locals	-0.07	0.65	0.11
Opportunities for local entrepreneurs	0.10	0.64	-0.03
Quality of life	-0.13	0.58	0.13
Informal job opportunities	0.25	0.58	0.21
Money earned by locals	-0.08	0.55	0.22
Jobs for women	0.16	0.50	0.10
Jobs for young people	0.15	0.48	0.04
Involvement in decisions has increased	-0.04	0.42	-0.24
Importance of natural resources	-0.01	0.42	-0.29
Beauty of community	-0.04	0.42	0.09
Opportunities for foreign entrepreneurs	0.27	0.09	0.73
Jobs for foreigners	0.26	0.03	0.73
Jobs for Dominicans	-0.02	0.07	0.71
Opportunities for DR entrepreneurs	0.05	0.23	0.64
Bad reputation of community has grown	0.35	0.04	0.48
Cumulative variance explained	**23.77**	**36.87**	**44.00**

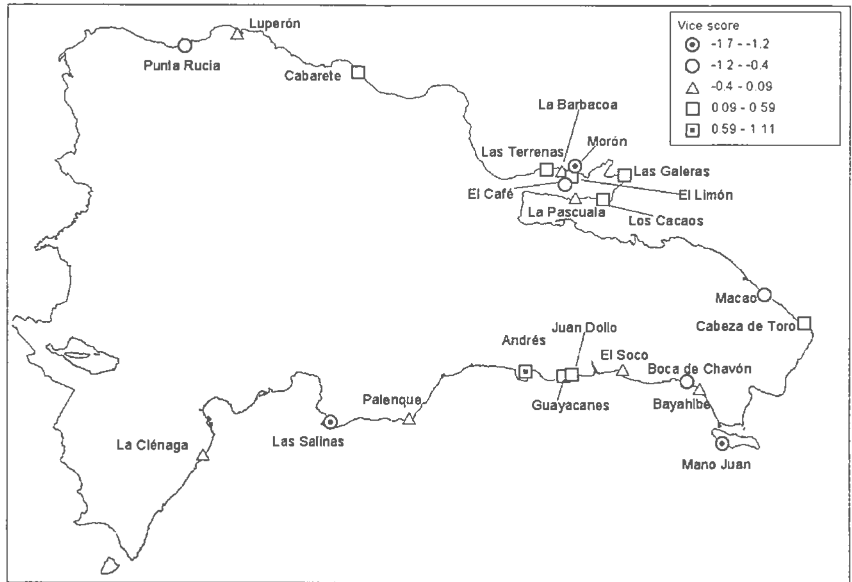

Figure 5.

Mean "vice" factor score for all communities.

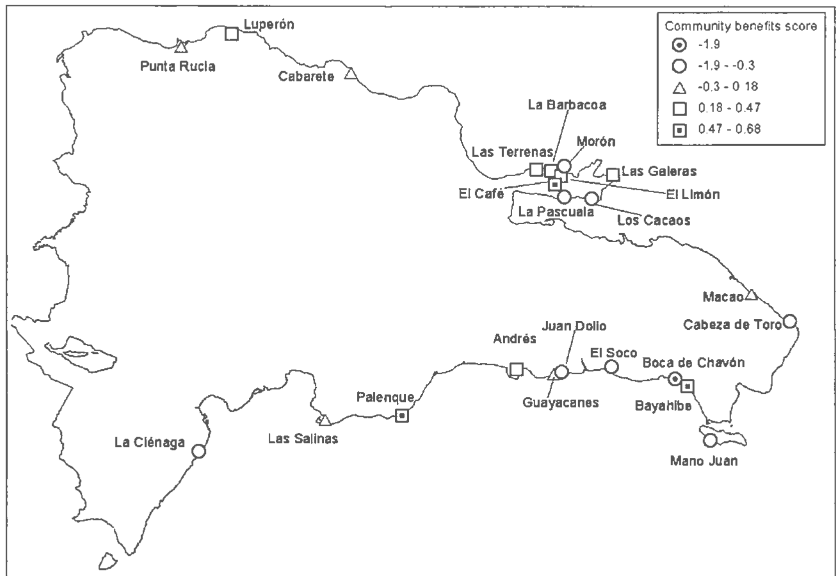

Figure 6.

Mean "community benefits" factor score for all communities.

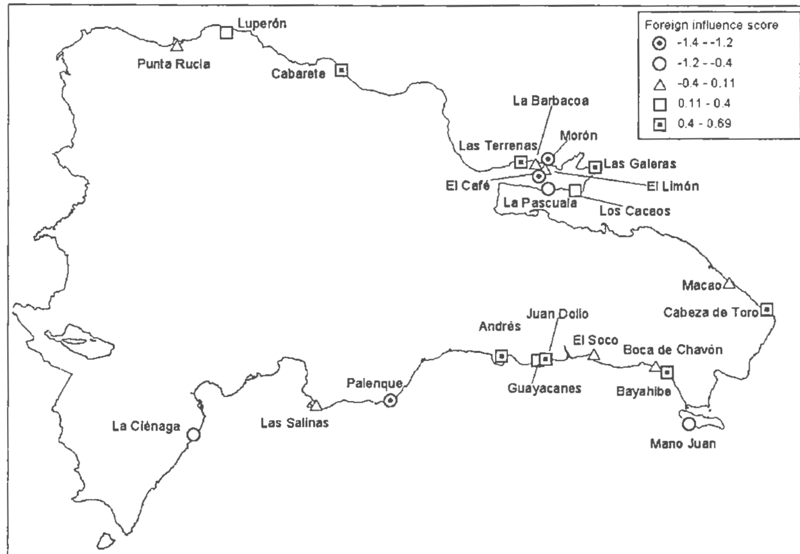

Figure 7.

Mean "foreign influence" factor score for all communities.

Tourism impact perceptions and respondent characteristics

We compared *vice*, *community benefits* and *foreign influence* factor scores across a series of respondent or household characteristics (see Table 21). The attributes that were positively and statistically related to the *vice* score were: contact level with tourists, knowledge of a second language and *solid home* factor score. Regarding the *community benefits* score, a number of personal characteristics were statistically significant. These included: age, having a tourism-dependent occupation, household dependence on tourism, having someone in the family benefiting from tourism ever, contact level with tourists, having received gifts from tourists, relative skin color, education, household income and *solid home* score. With respect to the *foreign influence* score, two characteristics were significant. These were: contact level with tourists and being male.

Table 21.

Relationship between respondent characteristics and tourism perception scores. The sign in parentheses preceding significant t-test statistics indicates the direction of the relationship with a given score.

Respondent Characteristics	**Significance test**	**N or df**	***Vice***	***Community benefits***	***Foreign influence***
Gender (female)	Student's t-test	688	1.69	1.28	(-)2.62**
Age (years)	Pearson correlation[a]	666	-0.04	0.10*	0.01
Age (older than 43)	Student's t-test	664	0.93	(-)2.02*	0.77
Marital status (single)	Student's t-test	675	1.96	0.53	0.06
Local origin	Student's t-test	623	1.25	0.24	1.11
Years residing in community	Pearson correlation	664	-0.07	-0.05	-0.04
Tourism-dependent occupation	Student's t-test	657	0.03	(+)3.18**	0.27
Head of household has a tourism-dependent occupation	Student's t-test	664	0.21	(+)2.58*	0.47
Ever received gifts from tourists	Student's t-test	658	1.86	(+)6.77**	0.17
Contact level with tourists	Spearman's rho	682	0.13**	0.23**	0.19**
Anyone in family ever benefited from tourism	Student's t-test	660	0.88	(+)4.18**	0.03
Relative skin color (1 white – 10 black)	Spearman's rho	656	-0.29	-0.20**	0.07
Occupation category	ANOVA F-test	5, 647	1.41	0.69	1.93
Education (years)	Pearson correlation	647	0.07	0.15**	-0.001
Knowledge of 2nd language	Student's t-test	617	(+)3.71***	1.47	1.46
Household income	Pearson correlation	583	-0.05	0.12**	0.04
Solid home score	Pearson correlation	594	0.15**	0.21**	-0.01
Appliances score	Pearson correlation	594	-0.03	0.07	0.01

[a] Pearson correlation coefficient.
*** p <0.001, ** p <0.01, * p <0.05

Tourism Impact Perceptions and Community Characteristics

Both bivariate correlations and multiple regression were used to test for relationships between tourism impact scores and community level characteristics. Bivariate correlations (Table 22) showed that the attributes that were positively and statistically related to the vice score were: community development score, population,

mean solid home score, years since tourism started, total rooms, relative importance of beach resort tourism, while day-trip tourism was negatively related to vice scores. In terms of community benefits, positive relationships were detected between percent of respondents with a tourism-related occupation, mean household income, mean solid home score, and level of tourism, while negative correlations were found with percent fishers, percent farmers, and the relative importance of second-home tourism. Regarding foreign incluence scores, positive correlations were found between community development score, years since tourism started, and relative importance of beach resort tourism, while percent farmers and importance of day-trip tourism were negatively correlated.

To determine which combination of community level variables best explains the observed tourism impact scores, we conducted multiple regression analysis. This analysis confirmed the importance of many of the variables identified above in predicting community impact scores (Table 23). Level of tourism was an important determinant for all three perception scores. For community benefits, the rate of population growth and the relative importance of Dominican tourism were also important variables; with regard to vice perceptions, the relative importance of beach resort and day-trip tourism; and for foreign influence, the number of rooms available, and the proportions of entrepreneurs and self-employed.

Table 22.

Relationship between community characteristics and tourism perception scores.

Pearson's correlation coefficient is reported with its significance.

Community Characteristics	***Vice***	***Community benefits***	***Foreign influence***
Community development score (1-8)	0.50*	0.22	0.50*
Population (1993)	0.49*	0.19	0.31
Population growth rate (1981-93)	0.09	-0.37	0.02
Percent farmers	-0.29	-0.07	-0.50*
Percent fishers	-0.33	-0.43*	0.10
Percent entrepreneurs	-0.02	-0.43*	0.35
Percent wage earners	0.24	0.09	0.32
Percent self-employed/family business labor	-0.15	-0.37	0.30
Percent w. tourism-related occupation	0.20	0.43*	0.09
Mean household income	0.19	0.50*	0.07
Mean solid home score	0.49*	0.53**	0.23
Mean appliances score	0.18	0.38	0.39
Years since tourism started	0.43*	0.36	0.49*
Level of tourism (1-10)	0.43*	0.74**	0.32*
Total rooms (2001)	0.49*	-0.06	0.60**
Rooms growth rate (1993-2001)	0.24	-0.24	0.29
Rooms per capita	0.29	-0.26	0.41
Relative importance of beach resort tourism (1-100%)	0.58**	-0.11	0.53**
Relative importance of day-trip tourism (1-100%)	-0.55**	-0.14	-0.42*
Relative importance of Dominican tourism (1-100%)	0.04	0.30	-0.16
Relative importance of windsurf tourism (1-100%)	0.12	0.08	0.16
Relative importance of second-home tourism (1-100%)	0.06	-0.50*	-0.13
Relative importance of sailing tourism (1-100%)	-0.02	0.18	0.14

N = 23, *** p <0.001, ** p <0.01, * p <0.05

Table 23.

Stepwise regression model of tourism perception scores using community characteristics. N = 23.

	Unstandardized Coefficients		Standardized Coefficients		
	B	SD	Beta	t	Sig.
Dependent variable: *Community benefits* score					
(Constant)	-0.90	0.16		-5.59	0.00
Level of tourism (1-10)	0.15	0.02	0.69	6.19	0.00
Population growth rate (1981-93)	0.00	0.00	-0.50	-4.36	0.00
Relative importance of Dominican tourism (0-100%)	0.01	0.00	0.30	2.57	0.02
$R^2 = 0.75$, $F = 21.9$, $p < 0.001$					
Dependent variable: *Vice* score					
(Constant)	-0.76	0.27		-2.78	0.01
Relative importance of beach resort tourism (0-100%)	0.01	0.00	0.33	2.02	0.06
Level of tourism (1-10)	0.11	0.04	0.43	2.83	0.01
Relative importance of day-trip tourism (0-100%)	-0.01	0.00	-0.41	-2.54	0.02
$R^2 = 0.54$, $F = 9.17$, $p = 0.001$					
Dependent variable: *Foreign influence* score					
(Constant)	2.87	0.84		3.40	0.00
Rooms available in 2001	0.00	0.00	0.30	2.50	0.02
% Respondents are entrepreneurs	-0.12	0.02	-1.27	-7.14	0.00
% Respondents are self employed/family business	-0.04	0.01	-0.71	-4.08	0.00
Level of tourism (1-10)	0.13	0.03	0.54	3.61	0.00
$R^2 = 0.81$, $F = 23.2$, $p < 0.001$					

Overall attitude towards tourism

The majority (86%) of residents surveyed agreed that tourism had brought more good than bad things to their communities. Furthermore, 90% stated that they would like more tourism to come to their communities. Respondents' *community benefits* score was significantly and positively related with both of these views (see Table 24), indicating that vice and foreign influence are not so important as community benefits in determining overall tourism attitudes.

Table 24.

Relationship between overall tourism attitude statements and perceived tourism impact factors. Student's t statistic is reported. The sign in parentheses preceding significant t-test statistics indicates the direction of the relationship with a score.

Factor scores	**Df**	**"Tourism has brought more good than bad"**	**N**	**"I would like more tourism to come"**
Community benefits	669	(+)11.43**	666	(+)11.28**
Vice	669	0.73	666	0.41
Foreign influence	669	0.20	666	0.06

*** p <0.001, ** p <0.01, * p <0.05

Discussion

Community benefits from tourism

This research confirmed the findings of other studies in terms of detecting a strong agreement on the economic benefits of tourism. Furthermore, our derived score

of community benefits not only included more money and jobs, but also the community's progress and improvement in quality of life. The popular concept of "progress" for Dominicans has been explored by Hoffnung-Garskof (2002) who found it to be closely associated with ideas of modern infrastructure and urbanization. Hoffnung-Gaskoff believed this notion had been largely shaped by the political discourse and government urbanization projects characteristic of the latter part of the 20th century in the DR, particularly by the administrations of President Joaquín Balaguer. We found support for such notions of progress when we asked respondents to expand on their views that the community had progressed or was more beautiful, and many responded that it was because "now there are more cement houses and buildings and less wooden ones."

In terms of the residents' views of an improved quality of life, it seems that tourism has contributed by allowing residents to make a living in a relatively easier manner. An illustrative example was provided by Berlina, a hair weaver who offers her services to tourists in Bayahibe beach. In spite of complaining about the increasing restrictions from POLITUR and competition with other hair weavers, she believed her life was better after tourism because "she no longer had calluses in her hand from chopping wood all day to make charcoal." The physically demanding occupations that many rural residents traditionally engage in provide a stark contrast to the "easy" jobs tourism can provide. Also, the increasing purchasing power of residents, and the general improvement in transportation services that often accompany tourism, have allowed many of these communities to trade more easily with other parts of the country, and they are thankful for that. Thus, it seems that the

increased economic benefits derived from tourism are contributing to the ideas of progress and well-being that are present in most residents' minds.

Vice and foreign influence

In spite of the wide agreement on the economic benefits of tourism, our research also revealed that many residents are concerned about tourism's negative impacts, especially increases in prostitution (and related spread of HIV), drug use, crime, alcoholism and deterioration of moral values, among others. In particular, child prostitution was often cited as the most negative impact.

According to Girault, prostitution is relatively rare in Dominican tourism areas, being circumscribed to well-defined destinations (Sosúa and Boca Chica). The work of Báez (2001) in Boca Chica confirms this, as well as several testimonies received during our visit to Andrés (the nearest community to the tourism area of Boca Chica). Although we did not visit Sosúa, our work in Cabarete (a nearby community) indicated a high awareness of this problem, suggesting that even though child prostitution may occur in only a few places, children may be recruited from many nearby localities. One of our respondents in Cabarete narrated how she knew of a local 11-year old orphaned girl whom her uncle had been "offering" to foreigners. The uncle hoped that one of them would marry[13] her and help him build a cement house for him and his family. The uncle had kept the girl out of school, as he thought this was a better option for her (and the family).

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[13] In popular Dominican speech, this could be cohabitation and not necessarily a formal union.

However, we must also point out that adult prostitution was not so highly condemned by residents, and understandably so. In fact, three published accounts of sex workers in Sosúa (Cabezas, 1999; Brennan, 2001; 2004), defend the thesis that many women are migrating there to use sex work as an advancement strategy and not just for survival. Many of them hope to establish a long-term relationship or marry a European man who will help them improve their socio-economic situation or sponsor their migration. Both the work of Báez (2001) in Boca Chica and our research also found positive local attitudes in relation to women and men who establish such relationships with foreigners. Many of them often acquire a privileged standard of living (inside or outside the country) and often are able to help their families get out of poverty, something that was usually envied by the rest of the community.

Some residents were also bothered by an increasing foreign influence affecting their communities. This is understandable because most hotel infrastructure and businesses tend to be owned by foreigners or elite Dominicans from outside the community. Apparently, residents feel that they are being left out of some of the available business and job opportunities, and they also blame outsiders for giving a bad reputation to their community. This has been reported for tourism areas elsewhere, as often host community residents lack the skills to be hired in the tourism industry or the capital and expertise to establish businesses that cater to tourists' tastes (Britton, 1989).

Environmental impacts

The environmental-physical domain that was expected to emerge failed to do so. The only two items related to the environment with moderate loadings in any of

the three factors were "importance of natural resources" and "noise." The environmental impacts of tourism development in the DR, particularly in beach areas, are discussed by Castellanos and Bona (1994) and Abreu (1999). These include: beach erosion (due to sand mining, destruction of reef structures, unwise construction practices near the shore); disposal of untreated sewage; runoff pollution from improvised garbage dump sites; loss of mangrove forests and filling of coastal lagoons and wetlands for hotel construction.

We were able to confirm most of the above-mentioned environmental impacts during field visits and conversations. However, many residents who do not live near the shore did not seem to notice them, and if they did, did not seem very concerned. For example, the food vending shacks in Ensenada Beach, Punta Rucia, are preceded by a mangrove swamp filled with all the garbage produced by the shacks. When we talked to the vendors about it, they did not seem to be concerned. Although such low environmental concerns are understandable for people who are struggling to bring food to the table every day, it nevertheless indicates a serious problem for the sustainability of the industry. Unlike residents, tourists from developed countries tend to be more critical of environmental problems, and might abandon some of these sites or not recommend other tourists to go there. In fact, a 1994 Caribbean guidebook was already critical of environmental conditions in the Puerto Plata region: "The surge in building has outpaced the infrastructure ...water pollution (from hotels in the beach-bordered areas) is a major problem." (Zellers, 1994: p. 390). Many of these environmental problems, if not remedied, will only worsen with time, threatening the long-term future of the tourism industry. Our results suggest that to avoid this,

environmental regulation will need to rely on external oversight rather than the community's.

Determinants of tourism perceptions and attitudes

This study identified a number of personal and community level characteristics that influence tourism perceptions. First, benefiting from tourism and having a high level of contact with tourists seemed to be the most important personal variables in determining resident perceptions (both positive and negative). This confirms the findings of other similar studies (e.g. Perdue, Long, & Kang, 1999, Walpole & Goodwin, 2001).

Second, our research also identified important community level variables in determining mean perception scores. In particular, level of tourism was an important variable for all three scores. This is understandable given that a critical mass of tourism activity is required so that communities can perceive its impacts. Our most interesting findings however, concern the influence of the type of tourism taking place. Both Dominican and day-trip tourism proved important in determining greater benefits and lower vice scores, respectively, while beach resort tourism seems to be contribute to higher vice scores. Also, greater number of rooms (usually from the construction of large hotels) seemed to foster greater local sentiments of negative foreign influence. The relevance of the type and scale of tourism in determining community benefits has been proposed by a number of authors (Long & Kindon, 1997; Ashley, Boyd, & Goodwin, 2000), however, this is the first time such assertions have been empirically tested.

Interestingly, our finding of positive impacts of day-trip would seem to contradict our results of greater negative impacts by beach resort tourism, since most tourists going on day trips come from beach resorts. This apparent contradiction could be explained by the fact that the current type of beach resort tourism in the DR may be monopolizing local attractions (such as beaches) that in other communities are being used to offer day trips. However, we think this finding highlights the importance of day trips in providing a crucial link for communities to benefit from the large volume of beach resort tourists that currently visit the country.

General attitudes toward tourism

Despite perceiving some serious negative aspects, the great majority of those living in the studied tourism areas think tourism has brought more positive than negative effects, and they would welcome more tourism development in their communities. One of the most commonly used theoretical frameworks for understanding residents' attitudes in the tourism literature has been the social exchange theory (Perdue, Long, & Allen, 1990; see also reviews by Pearce, 1996 and Ap & Crompton, 1998). As applied to residents' attitudes toward tourism, social exchange theory stipulates that individuals who benefit from tourism are more likely to support additional tourism development. In other words, the costs suffered by tourism development (such as in our case, increased vice and foreign influence) seem to be offset by the benefits received (more money, jobs, progress ideals). Thus, our findings agree with social exchange theory, in that resident attitudes seem to be strongly influenced by the personal benefits received from tourism, whether in the form of employment (for them or their family members) or gifts.

Another theoretical explanation that has been used to explain tourism attitudes is the tourism development cycle concept (Butler, 1980; Doxey, 1975; Smith, 1992). The underlying premise of the tourism development cycle concept is that residents' attitudes toward tourism will improve during the initial phases of tourism development, but reach a "social carrying capacity" beyond which additional development causes negative change. In a cross-national study, Liu, Sheldon, and Var (1987) found that residents living in areas with a more mature tourist industry tend to be more aware of negative environmental impacts. Although vice and foreign influence were related to duration of tourism in our study (Tabe 22), these negative impacts do not appear to influence the overall tourism attitudes. Walpole and Goodwin (1996) and Belisle and Hoy (1980) attributed the overall positive attitude of residents to the early stage of tourism development (in an Indonesian and a Colombian village, respectively). However, the positive attitudes found in both older and younger tourism destinations, do not seem to support this explanation in our case. Rather, we think that the widespread positive attitudes observed are best explained by the crucial role tourism is playing in the economy of these Dominican communities. In developed countries, residents are often bothered by increased traffic, crowds, and overwhelming of public infrastructure and services caused by tourism. In the case of our study, however, the great majority of residents do not have cars, seem to like the crowds as they can bring potential customers, and the public infrastructure and services were not even there before tourism arrived (and in many cases are still not available after). All of this could be pushing the hypothesized social carrying capacity for negative tourism impacts to a higher level that still has not been reached, and may in fact be quite high.

As a consequence, tourism development in these communities currently enjoys unconditional local support, however, we fear it might not be met by a similar tolerance for negative impacts on the part of some tourists. This could cause a decline in the type and/or number of visitors in the near future. More importantly, this suggests a strong difference underlying tourism studies in developed versus developing countries.

Resident restrictions

In spite of the overall positive tourism attitudes we encountered, during our field visits, we received many negative comments from residents about increasing restrictions to their actions usually effected by the Tourism Police (POLITUR). POLITUR was created in 1994 as a Department of the Dominican Police mainly to provide security to the tourists visiting the country. In 2000, with the incoming president Hipólito Mejía, POLITUR was promoted to the level of a General Direction under the President's office (POLITUR, 2004). Its objectives were expanded to "eradicate" vendors operating without a Tourism Secretariat permit, "eradicate and control" prostitution (of men, women and children) and safeguard property related to the tourism sector (public or private). We are concerned about this expanded mandate of POLITUR for a number or reasons. First, according to many residents, the permit requirements only serve to extort vendors or residents who want to become vendors. Báez (2001) also reports the common extortion of vendors, sex workers and street children by authorities (especially the police) in Boca Chica. Furthermore, Báez describes major conflicts of interest in Boca Chica, as the Police, the Dominican Navy, the Tourism Secretariat, and the local government were all issuing identification

cards to allow beach vendors to operate. Any of these authorities, could, in a given day, exclude vendors from the beach area if they did not have their particular identification cards. We also found issues with identification cards in many of the visited beaches. In some cases, the cards were also issued by hotel management or by local vendor groups or "unions" (*sindicatos*). Often times, the cards were used to limit the entry of new vendors, but also to favor friends and family, or to simply raise money. All of this creates a very difficult and sometimes unfair system for tourism vendors. Sometimes, POLITUR even prevented residents from attempting to set up vending stalls for locals. The importance of informal vendors for attaining local benefits from tourism have been well established for other developing countries (Dahles, 1999) and the DR (Kermath & Thomas, 1992); (Sambrook, Kermath, & Thomas, 1992). Thus, if informal vendors are to be regulated, a system needs to be devised with caution and fairness in mind.

In addition, POLITUR's role in restricting local peoples' access to beach areas in particular was very negatively received by residents. Fishers in Cabeza de Toro, were particularly hurt by this because they are not allowed to go to the beach where they used to gather baitfish in the morning. Esther, a woman from Las Terrenas also told us that POLITUR does not allow locals to be on the beach after dark (allegedly to prevent robbery). Previously, Esther complemented her meager earnings from domestic work by catching fish from shore at night or dusk and said, "by doing this is how I was able to raise my children." Another complaint we heard in Cabeza de Toro and Salinas about POLITUR was that it did not allow residents to build permanent structures or improve their houses without a SECTUR permit. Many residents think

this is because tourism authorities are planning to evict them or they simply wanted to make their life difficult so they would leave on their own. When we tried to investigate the reasons, we could not find any clear justification for this, except that it appears that POLITUR is also helping enforce planning regulations in tourism areas, and might be overextending its mandate in some cases to extort residents (one resident in Cabeza de Toro said he was not even allowed to repair the tin sheets covering his latrine). In conclusion, the issues described surrounding the restriction of informal vendors, the movement of locals and their construction projects need more attention, as they would likely affect the poorest people, and could generate strong opposition from locals that would hurt a destination's image.

In summary, although we detected very positive overall attitudes toward tourism, residents are also concerned about negative impacts, particularly the growth of vice and foreign influence. This, together with resentment towards the Tourism Police and other local authorities' conduct towards vendors and residents, could cause a change in the overall local attitudes toward tourism in the near future.

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Chapter Four.

Co-Management of Whale Watching in Samaná Bay, Dominican Republic

Introduction

Every winter, humpback whales (*Megaptera novaengliae*) migrate to Samaná Bay, Dominican Republic (DR), to mate and birth their calves. This reproductive aggregation is one of the most important ones for the North Atlantic humpback population (Mattila, Clapham, Vásquez & Bowman,1994). In Samaná, the whales can be observed very close to shore, and whale-watching (WW) trips are organized from a number of nearby coastal communities (Figure 8). All of this has made Samaná Bay the most visited WW destination in the Caribbean and is currently considered one of the best in the world (Hoyt,1999).

The presence of humpback whales in Samaná from January to March each year not only benefits people working directly with WW trips, but also many individuals who provide food, drinks, entertainment, and souvenirs to thousands of daily visitors (Lamelas & Ramírez,1994). Nevertheless, the rapid growth of the WW industry during the past decade has generated concern among natural resource managers, environmentalists, and the tourism and whale watching industry itself. Inappropriate behavior of whale watching vessels, especially on a sustained basis, could greatly harm this unique natural asset. The whales' vulnerability to negative impacts is increased by the fact that they visit the DR during their reproductive season, a critical period for the long-term survival of any species. In addition, aggressive vessel

behavior towards the whales could create a negative image for the industry, compromising its long-term sustanability.

In response to these concerns, a co-management system was established for regulating WW activities in Samaná Bay in 1998. A co-management system can be defined as a group of institutional arrangements through which a shared responsibility between government authorities and resource stakeholders is established for the management of a natural resource (Sen & Nielsen,1996). Such a system is a novelty in the DR, where natural resource management has been either non-existent, or has been characterized by "command and control" types of regulation by centralized government authorities.

In this study, we evaluated the design and performance of the WW co-management system in Samaná. Our initial goals were to measure the success of the current system in achieving its original objectives and to detect problems in the current system that, if addressed, could improve its success. Through this process, we hope to draw lessons that can be applied in the co-management of whale-watching or other natural resources.

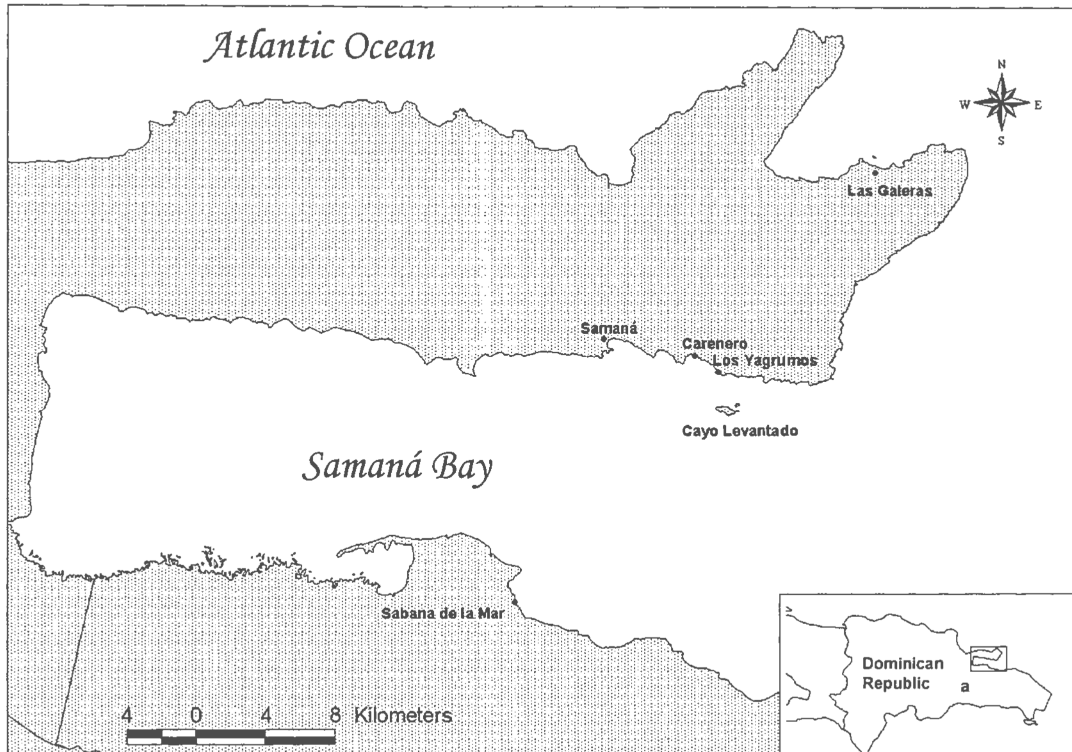

Figure 8.

Study area showing location of main WW ports.

History of the whale watching co-management in Samaná

Three important reproductive areas for North Atlantic humpback whales lie within the DRs' Exclusive Economic Zone. These are (in order of importance): Silver Bank, Navidad Bank and Samaná Bay (Mattila, Clapham, Katona & Stone, 1989; 1994). Silver and Navidad banks are emerging reef platforms located approximately 80 km north of the DR, and are only visited occasionally by artisanal fishers and by a small number of live-aboard boats operating from foreign ports during the whale season. In 1986, Silver Bank was declared a Humpback Whale Sanctuary by the DR's government, given its special significance for humpback reproduction. However,

because of its greater accessibility, Samaná Bay quickly developed into the number one WW destination in the country.

Whale watching tours in Samaná Bay started in 1985 by K. Beddall, a Canadian ex-patriate who is still successfully involved in the business. Interestingly, before Ms. Beddall, locals did not realize the tourism potential of whales. In fact, most of Samaná's residents knew very little about the existence of whales offshore, and those who did (mostly fishers) were fearful and avoided close encounters. During our conversations with older residents, we repeatedly heard a story about a whale that repeatedly breached (jumped out of the water, a behavior commonly observed in humpbacks) one day in front of the town of Santa Bárbara de Samaná circa 1960, which caused many people to run inland in panic and/or kneel down asking God forgiveness for their sins, because the beast was a sure sign of the end of the world. Nevertheless, soon after Ms. Beddall's tours proved to be a success with tourists, many other local and regional entrepreneurs followed suit and started offering whale watch tours. The growth of the industry was also influenced by the rapid increase in the number of international tourists coming to the DR especially during the winter months, as well as a growing popularity of nature-based tourism. Soon, boats were specifically purchased for WW and the fleet grew rapidly to 52 vessels offering WW trips in 1996.

In 1992, concerned about the rapid growth of WW and its potential impact on the whales, the Center for Ecodevelopment of Samaná Bay (an NGO known as CEBSE) and the Center for Investigations in Marine Biology (CIBIMA) from the Autonomous University of Santo Domingo, organized a workshop that drafted a series

of voluntary regulations for vessels conducting WW in the bay. In 1994, the members of the Samaná Bay Boat Owners Association (ASDUBAHISA) formally adopted these regulations.

Despite these efforts at self-regulation, the level of compliance with the regulations was low, and vessel activity in the WW area continued to be chaotic. Numerous tourists complained to their tour operators that during the trips they felt whales were harassed, that there were too many boats around them, and that many of these moved too fast and/or too close to the animals. In addition, a series of accidents during the 1995 and 1996 seasons highlighted the poor safety conditions for passengers on board WW boats. In March of 1995, the upper deck of an overloaded boat collapsed and the boat capsized; 24 passengers fell in the water and an Italian tourist died. In January of the following year, a boat carrying six Danish tourists filled with water when a wave crashed inside; one of the tourists suffered a broken leg during this incident. Just a week later, a boat carrying two German tourists lost its outboard engine and was adrift for many hours until another vessel spotted it. According to R. Bowman, a WW expert present, if this had happened the day before, when there were worse sea conditions, someone would have probably died. The report prepared by this expert (under contract by the US-based Center for Marine Conservation or CMC –) identified the poor passenger safety conditions and low level of compliance with WW regulations as priority problems for the Samaná WW industry (Bowman,1996).

All of this generated a lot of bad press for Samaná's WW industry, especially at an international level. As a result, in 1997, TUI , the biggest tour operator company

in Germany (and one of the biggest in the world), decided to withdraw WW trips to Samaná from the excursions offered to their tourists in the DR. This action shocked the industry and created panic, since many of the large boat operators relied almost entirely on large tour operators, such as TUI, to book their clients.

Also, during the 1997 season, WW in Samaná experienced a radical administrative shift. In July of 1996, by presidential decree,[14] the WW area of Samaná Bay became part of the Humpback Whale Sanctuary (which so far only included Silver Bank). The 1997 WW season was organized by the Commission in charge of this sanctuary, thus establishing an official oversight and surveillance system for the first time in Samaná. The Commission was made up of representatives from different institutions, such as the National Parks Direction, the National History Museum, the Dominican Navy, CIBIMA and Fundemar (NGO).

This arrangement, however, did not last very long. In mid 1997, the decree that gave jurisdiction of Samaná's WW area to the Sanctuary Commission was superseded by one that transferred the authority to the National Parks Direction.[15] However, before the next whale season, this latter decree was suspended. It is believed that a strong lobby by an influential member of Fundemar and other individuals with ties to the Presidency was responsible for this technical (as we shall see) devolution of power to the Commission.

In the middle of this legal confusion and power struggle, different stakeholders from the WW industry decided that a different mechanism for the management of the 1998 season was needed if the industry was to survive. A proposal for the integrated

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[14] Decree No. 233-1996.
[15] Decree No. 319-1997.

co-management of WW in Samaná Bay was drafted by CEBSE and CMC, with support from ASDUBAHISA. The proposal distributed management responsibilities for the WW season among the different government and non-government stakeholders and established permit, surveillance and monitoring systems. The National Parks Direction accepted the proposal, and for its implementation drafted a Memorandum of Understanding (MOU) to be signed each year between National Parks, ASDUBAHISA, CEBSE, the Dominican Navy and the Tourism Secretariat. The Sanctuary Commission was left out of the MOU and has not been involved since. This seems to have been caused by an increasing interest by National Parks to manage whale watching and its resources, combined with an unwilling Fundemar (a Santo Domingo-based NGO that was the unofficial leader of the Commission) to share its power over whale watching.

In 1999, after the co-management scheme was introduced, a new government decree expanded and merged the boundaries of the Samaná WW area into a large, irregular polygon that also included Silver and Navidad Banks. This, however, did not have any consequences on the co-management system implemented for Samaná, and the MOU (with minor changes) has continued to be signed each year, under the administration of the National Parks Direction, converted since 2000 into the Protected Area and Biodiversity Sub-sub secretariat within the Environment and Natural Resources Secretariat (henceforth Environment Secretariat). The MOU contains provisions for WW in Silver and Navidad Banks, but for the purpose of this paper we will focus only on those for Samaná.

Samaná's whale watching co-management system

The co-management system created for WW in Samaná has four major components: 1) a permit system, to limit entry of vessels into the industry; 2) a surveillance system, to oversee that WW regulations are followed and to sanction those that violate them; 3) a monitoring system, to attempt to record impacts of WW on the whales and other variables of the WW activity; and 4) a fund-raising scheme, to pay for the administrative costs associated with co-management. We will briefly discuss these components below.

1. Permit System. All boats that wish to do WW in Samaná Bay need to obtain a permit from the Environment Secretariat. The number of permits has been limited to 41 for the past four years, and it is an unwritten practice to give preference to the previous year's permit holders in the allocation of each year's permits. The requirements for obtaining the permits (as of 2003) include: the vessel must have a minimum length of 23 feet, a working VHF radio, life vests for all passengers, a navigation permit (from the Dominican Navy) and have local captains with experience in WW. To verify permit requirements, staff from the Environment Secretariat and the local Navy post conduct an inspection of each vessel.

2. Surveillance system. Every season, the Environment Secretariat hires a coordinator and up to four observers to oversee boat behavior and compliance with WW regulations in the WW area. To this end, they go out daily on board different commercial WW vessels, from which they can also give advice and warn captains in the whale area about their behavior through VHF radios. Every morning, before setting out for the WW area, the surveillance staff provides the Samaná Navy with a

list of the vessels that are allowed to go WW on a given day. Besides those who do not have a permit, vessels not allowed to go WW are those that have been sanctioned for violating the WW regulations in previous days. The sanctions system (up to the 2003 season) consisted of the following: at the first violation of the regulations, the vessel captain receives a warning and the vessel owner is informed in writing. At a second violation, the captain in banned to go WW. At the third violation, the captain *and* the vessel are penalized for two or more days. According to the severity of the violation, the season's WW permit for the vessel could be revoked. To address compliance issues with the WW regulations, the coordinator meets weekly with boat captains in Samaná to discuss problems and violations that occurred during the previous week and seek possible solutions.

3. Fundraising system. The funds raised from the sale of WW permits and passenger tickets are used to cover administration costs of the system. Initially, the price of the permits for each year was agreed upon during meetings with boat owners and Environment Secretariat staff, but now this seems to be set by the Secretariat only. Three prices were set according to size and type of vessel: small (*yolas*), medium (*lanchas*) and large vessels (*barcos*). Between 1999 and 2001, a reduced permit fee was implemented for those vessels affiliated with ASDUBAHISA. This was done to promote new and small vessel owners to join the association. This however, did not produce the intended results, because most of the unaffiliated vessels (small boats or *yolas*) felt that this was a way to force them to be under the control of large vessel owners. Since the 2000 season, the Environment Secretariat started selling tickets all

passengers going on WW trips, alleging they should pay the same fee as any other visitor to a protected area in the country.

4. Monitoring system. A data collection system has been implemented by CEBSE, which has arranged and coordinated the participation of volunteer observers to go onboard commercial WW vessels. These observers fill out data forms containing information on the whales observed, trip characteristics and weather conditions. CEBSE maintains this database and has sought technical assistance in database construction and data analysis.

Methods

To evaluate the success of the WW co-management system, we first consulted secondary data sources, such as agency and NGO reports, as well as popular and academic articles; second, we analyzed the database for monitoring the WW activity and its impacts on whales maintained by CEBSE, and third, we conducted semi-structured interviews with key informants from government agencies, NGOs, and the private sector in Santa Bárbara de Samaná and the capital city, Santo Domingo (see Appendix 1 for the list of key informants).

Our semi-structured interviews covered the following topics: 1) assessing compliance with the agreed upon responsibilities detailed in the MOU by each signing organization, 2) detecting changes brought by co-management, and 3) measuring compliance with the WW regulations. To achieve this, we prepared three types of questionnaires: the first, was a series of statements detailing the MOU responsibilities (e.g. "The Navy always ensures that sanctions are complied with") followed by a 7-

point scale to measure the respondent's agreement level (1 = completely disagree- 7 = completely agree). The second type of questionnaire addressed the perceived changes brought by co-management and presented statements related to the initial goals that motivated its establishment (e.g. "passenger safety") in addition to others from the co-management literature (e.g. "collaboration among stakeholders"). For this questionnaire, respondents were asked to rate the condition of a variable before and after the co-management system was implemented by pointing to a step on a 10-step ladder (where 1 represented the worst level possible and 10 the best). The third questionnaire was intended to evaluate compliance with the WW regulations by boat captains, using a similar method as that used to evaluate MOU compliance (with 1 = zero compliance to 7 = perfect compliance). The selection of respondents for each questionnaire was determined by their type of involvement in the co-management system (e.g. boat captains and people who frequently went out to sea were questioned on regulation compliance).

Results

A detailed presentation of findings and recommendations is outside the scope of this paper, but is presented in the reports of this evaluation prepared for CEBSE by León (2003; 2003b). For this paper, we will only present and discuss the most relevant findings, particularly those related to the study of WW and co-management in general.

Impacts on whales

Distribution area.

By aggregating all location data on the whales observed during WW trips, we obtained a good idea of the area mostly used by whales in the Bay in recent years. This area seems to be the same as the one described by Mattila, Clapham, Vásquez and Bowman (1994) using 1988 observations, measuring about 52 km^2 (28 nm^2) and is located at the northeast side of the Bay (Figure 9). The whale distribution area is limited, to the north, by the Samaná peninsula, and to the south, by the shallow water of Media Luna shoals. To the east, the area's limit coincides with the 200m isobath, however, to the west, it appears that water turbidity is the main limitation. Although our data lacks observations from the western part of the bay, Mattila, Clapham, Vásquez and Bowman (1994) mention never encountering whales there. In this area, two major rivers empty, causing high turbidity conditions. These authors speculated that whale distribution in Samaná Bay probably reflected their selection for protected, but clear oceanic water, where they could better see their potential mating partners. This suggests that year-to-year variation in whale distribution is influenced by differential river outputs, and could explain residents' observations of whales closer to the town of Santa Bárbara de Samaná in previous years, which lead them to believe that the WW boats had "scared them away". Our analysis, using data from 1999-2002, indicates that the area utilized by whales seems to have remained constant for over a decade.

Whale groups observed.

Whales seen in the Bay can be single individuals, mother and calf pairs, other pairs, trios (such as mother, calf, and escort) and groups of more than three individuals. Mattila, Clapham, Vásquez and Bowman (1994) also provide data on the frequency of whale groups observed during their fieldwork in Samaná during the 1988 season. When comparing the relative frequencies of each whale group between both sources (Table 25, "unknown" row not included in the analysis), we detected significant differences between the proportions of whale groups sighted (Chi square test, $\chi 2 = 693.68$, df = 6, $p < 0.001$). It seems that in recent years there has been an increase in the number of mother and calf pairs (from 8.9 % to 16%), and also of groups containing a calf (from 15.2 to 25.3%), while the relative proportion of singles appears to have decreased (from 41.8 to 18%). These observations were corroborated by K. Beddall, the oldest WW operator in the bay. Also, the number of trios (without a calf) increased from 1 to 12%.

Whale abundance.

Since we lacked whale counts using a standardized method (e.g. distance transects, aerial surveys, mark-recapture data applied to individual fluke photographs, point-count surveys, etc.) to estimate absolute abundance, we compared the mean number of whale observations as well the as the total number of observed whales per trip through the different years. In both cases, we detected significant differences indicating a moderate increase over 1999 in the two later years with available data (Table 26).

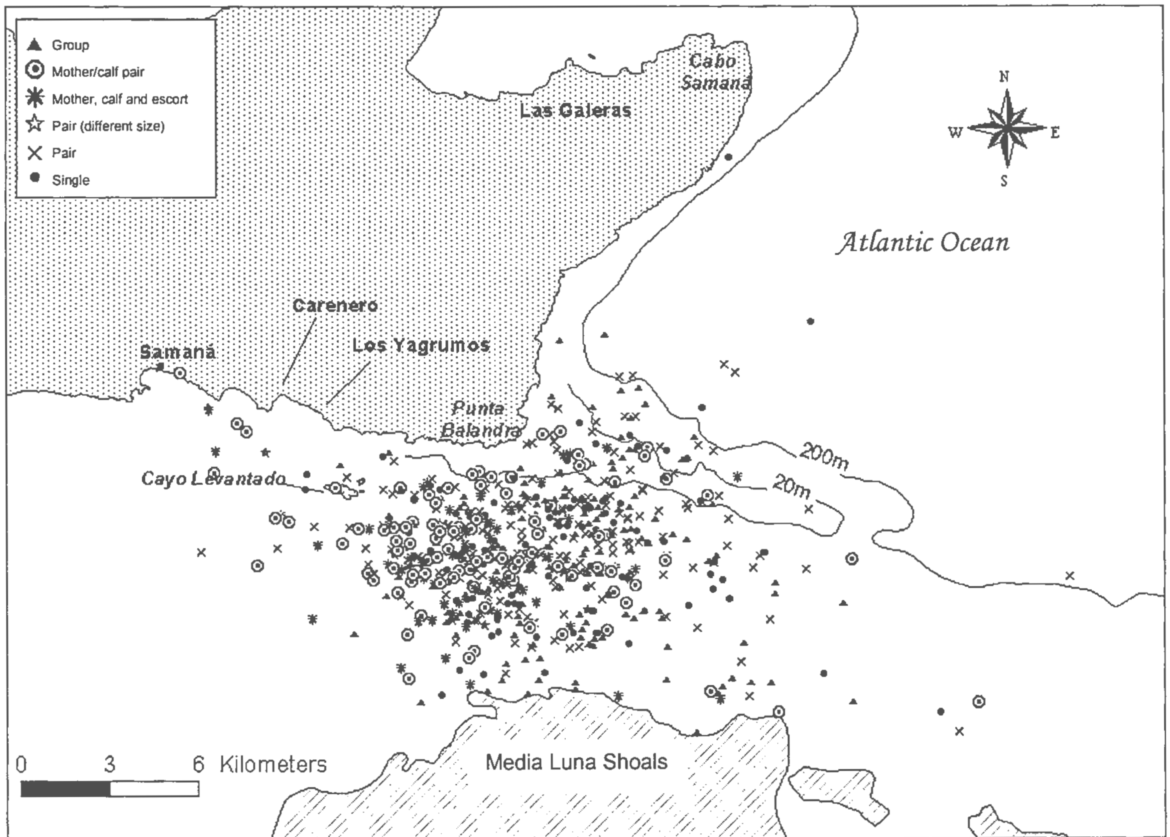

Figure 9.

Map showing the main area used by humpbacks, by aggregating observation from commercial WW boats for 1998 – 2003.

Table 25.

Comparison of relative whale group classes sighted in Samaná Bay between this study and that by Mattila et al. 1994).

Group class	**Frequency (this study)**	**%**	**Frequency (Mattila et al. 1994)**	**%**
Unknown	12	1.8	-	-
Single	124	18.4	273	41.8
Mother/calf pair	108	16.0	58	8.9
Pair (other)	203	30.1	204	31.3
Mother/calf and escort	57	8.4	35	5.4
Trio (other)	80	11.9	9	1.4
Group with calf	6	0.9	6	0.9
Group (no calf)	85	12.6	67	10.3
TOTAL	**675**	**100.0**	**652**	**100.0**
Total groups with calf	171	25.3	99	15.2
Different size pair	10	1.5	-	-

Note: The naming and definition of whale classes used by CEBSE and Mattila et al. was not exactly the same. To make comparisons, we equated our *trio* category with that of *non-competitive trio (excluding mother and calf)* from Mattila et al. Also, our *group (no calf)* category was compared to *competitive groups (no calf)* of Mattila et al. Finally, *groups with a calf* was compared with Mattila et al.'s *competitive group with a calf*. Our pair sub-category *different size pair,* not specified in Mattila et al., probably represents mother/yearling observations.

Table 26.

Mean number of whale observations and individual whales observed per WW trip by season. One standard deviation is shown in parentheses.

Season	**N**	**Mean number of whale observations x trip**	**Mean number of whale individuals observed x trip**
1999	159	1.6 (0.8)	3.88 (2.5)
2000	123	2.2 (1.4)	5.28 (3.0)
2003	65	2.1 (0.7)	4.45 (3.0)

ANOVA for whale observations, $F = 12.95$, $df = 2$, $p < 0.001$
ANOVA for whale individuals, $F = 9.75$, $df = 2$, $p < 0.00$
Note: Data for the 2002 season were excluded because there were very few observations.

MOU responsibilities

Tourism Secretariat (SECTUR) responsibilities.

Most respondents felt that SECTUR had not fulfilled its MOU responsibilities (Table 27). The failure to promote WW inside and outside the country was commonly commented on by respondents. For the most part, whale tourism is currently marketed as day trips offered to beach resort tourists that are already in the country. Many believe that the exceptional WW conditions in Samaná could be used to market the country as a destination for other types of tourists (e.g. those more interested whales or nature in general). Another sore point is that SECTUR has failed to evaluate visitor satisfaction through survey research, as it promised to do. Only certain tour operator companies are reportedly doing this, but their results are not always available to interested parties (e.g. boat owners), except when there are serious complaints.

But most complaints about SECTUR centered around its neglect in training tourist guides on the WW subject, and also that is has legitimized untrained individuals as guides. Even in a recent (2002) training workshop held by SECTUR in Las Terrenas (a nearby town) whale information was completely left out of the curriculum. With regard to guides, boat owners resent SECTUR for issuing "practical guide" identification cards and uniforms to many unqualified individuals that previously worked as hawkers around the Santa Bárbara de Samaná wharf area, locally known as *buscones* (buscar = to search or seek, for someone who is always seeking money). These *buscones* aggressively approach any arriving tourist to the Santa Bárbara de Samaná wharf to offer them the "best deal" for going WW. Usually, they take the tourists to the smaller WW ports outside of the town of Santa

Bárbara de Samaná, where the small boats operate. However, the *buscones* do not own boats, and usually do not work with boat owners (even though they make the tourists believe they do). However, given their important role in directing tourists their way, the small boat owners let them keep a variable but usually large commission (allegedly up to 80% of what the tourist pays them). The lack of foreign language skills by small boat owners precludes direct negotiations between them and the tourists. Even when they can communicate in the same language, the *buscones* do not allow them to talk directly to the tourists. This situation creates a great dependency between the small boat owners and the *buscones,* which in some cases has evolved into a friendly one. However, especially at the port of Carenero, boat owners blame the *buscones* for their low profit margins, which do not allow them to invest in improving their fleet and services. Allegedly, the *buscones* have become such a nuisance, that small boat owners indicated they would like to have a policeman from POLITUR (the tourism police force) permanently at Carenero to regulate their transactions.

Table 27.

Evaluation of compliance with responsibilities specified in the Co-management MOU for each involved institution.

MOU RESPONSIBILITIES	N	Mean	SD	Compliance Score
Tourism Secretariat (SECTUR)				
Promotes WW activities	6	3.5	0.6	▲
Evaluates visitor satisfaction	5	0.2	0.5	■
Trains WW guides	6	1.3	1.9	□
Enforces WW vessels have a SECTUR permit	5	0.2	0.5	■
Environment Secretariat				
Ensures compliance with WW regulations	5	5.2	0.8	●
Reports violations to the Navy	5	3.8	0.9	○
Builds capacity of the captains	5	3.8	2.2	○
Designs and implements administrative measures	5	5	0.0	○
Collects permit fees	5	5	0.0	○
Prepares weekly reports (during WW season)	1	0	-	■
Prepares a final report (of the WW season)	3	5	1.0	○
Trains Navy staff in WW regulations/enforcement	3	4.3	0.6	○
Coordinates participation of other orgs. in WW	1	5	-	○
Organizes weekly captain meetings	5	4.6	0.6	○
Invests 15% of revenue in tourism infrastructure	4	4.5	1.3	○
Invests in research, evaluation, etc.	4	1.5	1.7	□
Dominican Navy				
Carries out imposed sanctions (by Environment Secretariat)	8	4.6	0.7	○
Supplies personnel for WW port surveillance	7	5.7	0.5	●
Keeps a daily record of vessel departures	7	4.9	1.8	○
Ensures only vessels with WW permit go WW	7	4.3	1.6	○
Ensures WW vessels have a VHF radio	4	4.5	1.3	○
Checks passengers have life vests on in *lanchas/yolas*	3	4.3	1.5	○
Cooperates in captain training in WW regulations	4	3.0	2.8	▲
Boat Owners Association (ASDUBAHISA)				
Motivate their captains to comply with WW regs.	4	4	2.0	○
Ensure their captains attend the weekly meetings	3	0.33	0.6	■
Follow imposed sanctions	4	3.5	2.4	▲
Provide room on their vessels for observers	4	6	0.0	●
Pay their WW permit fees	3	5	0.0	●
Make participatory infrastructure spending decisions	4	4.75	1.0	○
CEBSE (Environmental NGO)				
Provides technical advice to interested parties	6	5.5	0.8	●
Acts as an impartial observer	6	2.67	2.9	▲
Cooperates in conflict resolution	6	4.5	1.8	○
Promotes community involvement	5	5.4	0.6	●
Coordinates international expert participation	5	5.8	0.5	●
Monitors impacts on whales	3	5.67	0.6	●
Publisher a annual monitoring and evaluation report	2	2.5	2.1	□

Note: the means calculated do not include opinions from individuals from the institution being evaluated. Responses ranged from: 0 = strongly disagree to 6 = strongly agree. "Compliance scores" were assigned based on the following legend: ● = excellent (average > 6), ○ = good (3.5 < mean < = 6), ▲ = acceptable (2.5 > mean < = 3.5), □ = poor (1< mean < = 2.5), ■ = very poor (mean < 1).

Environment Secretariat Responsibilities.

Most respondents seemed satisfied with the work of the Environment Secretariat, especially in implementing WW regulations. They attributed this success to the local staff assigned to this task. Furthermore, interviewees thought that the Environment Secretariat deserved praise for taking on the challenge of working with local boat captains and monitoring them at sea. One respondent went so far as saying that the Environment Secretariat's job had been "outstanding, given the inefficient way in which most government institutions operate in the DR." However, with regard to the Environment Secretariat's performance in administrating the co-management regime, some respondents felt that, even though it has done an acceptable job, it has increasingly been taking decisions without consulting with interested parties. As an example, the 2004 revision of the sanctions was drafted by Environment Secretariat personnel in Santo Domingo and sent by fax to some of the large boat owner's offices a few days before the season started, with no previous consultation or comment period, although comments were welcomed by fax.

Although most respondents were supportive of the idea of the weekly meetings between the Environment Secretariat coordinator and the WW boat captains, many reported that there were some problems that were causing lower attendance. Some of the problems include the lack of interest of some boat owners, who do not motivate their captains to attend; also the exhaustion of boat captains at the end of an intense day of WW, and the lack of a meeting agenda, which unnecessarily prolonged the meetings (some of the boat captains must travel from towns outside of Santa Bárbara de Samaná). Allegedly, the lack of an agenda turned many meetings into a

monotonous repetition of the WW regulations by the coordinator. A respondent pointed out that the regulations are usually violated for reasons other than a lack of familiarity with them, and that these reasons should be the focus of the meetings. The boat captains also complained that they no longer get refreshments during the meetings, and there was no longer a party held in their honor at the end of the season. We sensed that these changes in treatment made boat captains feel less important in the co-management regime, and explained their decreasing interest in attending the meetings. To improve attendance, the coordinator has started sanctioning captains when they miss three meetings during a season, and even though it had a positive effect on attendance, it also has increased tension between captains and the rest of the co-management regime. Apparently, many attendees do not show interest nor contribute to the discussions, and in many cases leave early.

Another complaint directed towards the Environment Secretariat was that its attitude towards the co-management regime was primarily oriented toward whale protection, with little regard to the people involved and their interests. For example, small boat owners expressed concerns that the system is trying to take them out of the business by gradually increasing the permitted WW boat size (from a minimum of 19 in 1998 to 23 feet in 2003).

Dominican Navy's responsibilities.

Although mostly good, there are mixed responses with respect of the Navy's collaboration with the co-management system. Port staff seem willing to fulfill their basic duties in the co-management system, and this is attributed in part to a monetary

incentive given to them every year by the Environment Secretariat, which is greatly appreciated given their low salary levels. Some respondents complained about faulty record keeping concerning departing vessels, numbers of passengers, and other oversights, but they also acknowledged that the low education of Navy staff did not permit them to do their job more efficiently.

However, the overall performance of the Navy appears to depend a lot on the personality and interest of the incumbent Port Commander, which can be changed from year to year or more frequently (up to three times during one WW season). This frequent rotation of the Commander and also of other Navy staff seems to cause significant problems for co-management and does not allow for any joint planning of activities. Training and briefings for Navy staff on their duties concerning the WW season are usually scheduled before the season starts, and if personnel are changed after that, the Environment Secretariat staff is usually too busy to re-train them. At the time we were conducting interviews, we were advised not to bother talking with the Commander, because he was recently appointed and knew nothing about the co-management system and WW. Also, some respondents believed that the application of sanctions was influenced by who was being sanctioned, because it appears that some boat owners have influential connections with Navy staff.

Boat Owner's responsibilities.

There were mixed opinions on the boat owners' attitudes towards the co-management scheme. Some boat owners admitted that they did not know all the WW regulations and this translated into little pressure on their captains to follow them and

also to make them attend the weekly meetings. Because the sanctions for some violations are only applied to the captain, some respondents complained that in such cases, some boat owners would simply hire a new captain for the day. On the other hand, we heard accounts of boat owners being very supportive of co-management, who even discount pay to the captains that miss meetings and going themselves to the captains' meetings to be informed.

Some respondents complained that ASDUBAHISA had made decisions on co-management-funded infrastructure with little consultation with other parties. However, thus far only one project has been carried out: the public restrooms at Cayo Levantado (an island near the WW area where most tourists are taken after seeing the whales for a few hours before returning to the mainland ports). It seems the bathrooms were perceived as a priority need by all stakeholders and few complained about ASDUBAHISA's decision. However, there was no such agreement on the projects proposed for 2004 by ASDUBAHISA, even though it seemed at the time of the interviews that they would be carried out regardless.

CEBSE's responsibilities.

Most respondents had a favorable opinion of CEBSE's role in the co-management scheme. Its educational role was particularly praised, because it helped dispel fears about whales and has turned Samaná's residents (especially students) into proud spokespeople of the whale resource. Most respondents also conceded that CEBSE had acted as an impartial observer and a facilitator of the co-management system. Some examples given include CEBSE's role in negotiating the total number

of permits so historical permit holders could continue operating; in serving as a mediators between the Environment Secretariat and boat owners from other small towns that want to enter the WW industry; in intervening on behalf of captains or boat owners when disproportionate sanctions were applied; and also interceding on behalf of the small boat owners so they could operate at the start of a season when their VHF radios had been ordered but not yet arrived.

Finally, CEBSE's organization of a monitoring program was also viewed positively by most. However, even CEBSE conceded that the analysis of the data collected had been less than complete due to a lack of staff and funding, and that its original purpose of providing data that would contribute to the management of WW, had not been fully realized. One monitoring report was drafted in 2000 (Sang, 2000), but contained few practical recommendations for management.

Compliance with WW regulations

A summary of respondents' views on compliance of regulations is shown in Figure 10. Below we will present the existing WW regulations for Samaná Bay that are endorsed by the co-management system, followed by comments on their compliance.

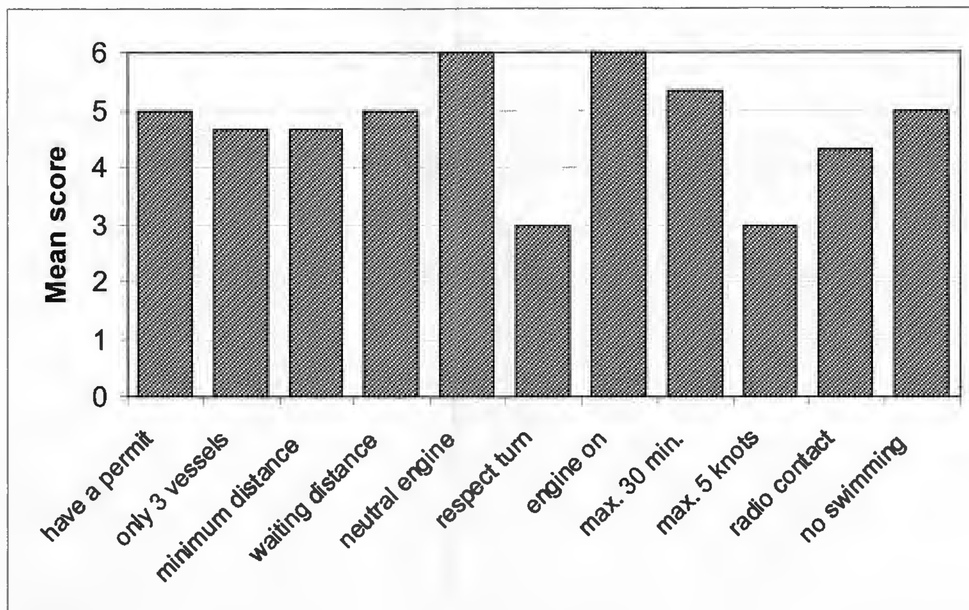

Figure 10.

Ratings of compliance with WW regulations on a scale of 0 = no compliance to 6 = perfect compliance (N = 4).

1. Regulation: Only vessels with a WW permit are allowed to go whale watching. The majority of respondents concurred that very few boats without a permit were conducting WW activities, although this was a problem in the past. According to one respondent, there were only four "pirate" small boats that conducted WW last season. Allegedly, they were able to do this because they operate from Villa Clara's (a small village between Santa Bárbara de Samaná and Carenero) beach, where there is no surveillance, and because they had friends (padrinos) in the Navy. Other reported violators were Simi Baéz boats, which had WW permits in the past, but were suspended in 2003 due to lack of payment. It seems that on peak days of the 2003 season, this operator took tourists WW (perhaps former clients).

2. Regulation: Only one large boat (of over 30 feet in length) and two small boats (less than 30 feet) can be simultaneously observing a whale or group of whales. Although most respondents said this rule was usually followed, some stated that they thought two large boats alone or two large and a small boat were also permitted. To avoid such confusion, a more detailed wording of this regulation seems appropriate. However, the biggest problem with this regulation seemed to be that incoming small boats tend to be impatient, and often join in a whale observation before one of the three preceding boats leaves. Small boat captains argue that they are pressed to finish the trip soon so they can make as many trips as possible in a day (they are paid by the trip). Small boat owners also allege that some tourists get seasick easily, especially when there are rough sea conditions, and that puts pressure on them to minimize their time at sea.

3. Regulation: The minimum distance between a WW vessel and a whale or group of whales is 50 m, and for a mother/calf pair or group containing a calf, 80 m. Again, most respondents blamed the small boats for being the main violators of this regulation. Observers in other WW industries around the world have recognized the difficulties of accurately estimating distance at sea (Baird and Burkhart 2000), making sanctions difficult to apply. However, there seems to be a consensus that small boats consistently approach the whales at shorter distances than all other vessels. Small boat captains justify their behavior because of their lower height as a viewing platform, claiming that unless they do not violate the distance rules, their passengers are not able to get a good look of the whales, especially when there are high swells. They would like some flexibility in the applications of sanctions on this concept,

because in some cases, they simply would not be able to operate. However, one should also take into account the viewing rights of passengers of larger vessels, who complain that the smaller boats interrupt their view of the whales and that they "came to see whales, not boats."

4. Regulation: Incoming WW boats on a whale observation where there are already three boats present must wait at an approximate distance500 m from the whale(s). The waiting distance seems to be also a minor issue. Apparently, some boats start their wait at the regulated distance, but soon start approaching the whale little by little, "to prevent someone from taking their turn." A respondent said there needs to be a system for establishing turns for incoming vessels to the waiting area when there are already some there. This person suggested sending radio messages the incoming vessel to inform it of the order of arrival.

5. Regulation: Boats waiting to make a whale observation must respect their turn. Even in cases where a boat's turn to approach a whale is clearly established, it seems there are still problems with respecting it. This problem seems to be more acute at the beginning and end of the season, when whales are less abundant. The only proposed solution by respondents was that strict sanctions are applied to all those captains and vessels that do not wait for their turn.

6. Regulation: When a vessel conducting an observation approaches the minimum viewing distance to the whale, it must set its engine on neutral and wait, but must not turn the engine off at any time. Most respondents agree that there seems to be near perfect compliance with this regulation. One related suggestion by an experienced WW operator was that vessels should also avoid sudden sprints towards a

whale when it was on the surface, even if the vessel was at a greater distance than the required minimum. This not only could disturb the whales themselves, but also make tourists think that the whales are being harassed.

7. Regulation: Thirty minutes is the maximum time a boat can spend observing the same whale, pair, or group of whales. Most boats seem to follow this regulation, however, respondents said that viewing time often depended on the whale's behavior, and whether it allowed passengers to get a good view of the animals. Some respondents also expressed that if a boat was alone, it could spend as much time as it wanted. This is not specified in the regulations, however.

8. Regulation: Five knots is the maximum speed allowed for WW vessels in the WW area (east of Cayo Levantado) or anywhere else in the Bay where whales may be found. This regulation is broadly ignored, but given the difficulty of measuring speed, very few sanctions are imposed. For reasons discussed before, most boats want to spend the least amount of time possible in the WW area. Another contributing factor to excessive speeding is the increasing power of engines purchased for WW boats. Also many boat captains are young men who enjoy speeding. However, some captains of fast engine boats said that even if they wanted, they couldn't make the boats go as slow as five knots. The engines of fast *lanchas* (medium boats) from one of the main operators, allegedly had to be "tuned down" because tourists complained to their tour operators of excessive speeds, and the company owner was unsuccessful in making the captains voluntarily go slower.

9. Regulation: All vessels in the WW area can be contacted by VHF radio. Respondents also reported problems with compliance on this regulation. Again, small boats seem to be the main culprits, with about half the *yolas* being usually incomunicado. Small boat captains and owners said they could not be reached all the time since they could not afford waterproof radios, so they keep them (turned off) inside a closed container (usually an empty cooler). Other respondents also mention battery saving as a reason for keeping them turned off. However, some respondents also accused some boats of not responding to avoid sharing a whale observation. Sharing positions of sighted whales over the radio has also been reduced by some of the slower boats, because at times the fast boats can reach the whale before them, forcing them to wait.

10. Regulation: No boat will allow its passengers to swim with whales. It seems, that, with few exceptions, there is good compliance with this regulation. The only violation that was repeatedly mentioned was that of a foreign tourist in the 2003 season that unexpectedly jumped off a WW boat to touch an approaching whale. The man landed over the fluke of the humpback, and cut his chest with the attached barnacles, but did not suffer major injuries. No sanctions were imposed on the captain, because he had no idea the passenger was intending to do this.

Changes resulting from co-managemen.

Passenger safety.

Most respondents agreed that co-management had helped improve passenger safety on board WW trips (Figure 11). One of the particular causes for this included the requirement of having VHF radios, which have proven useful in calling for help in

recent accidents at sea. Similarly, the requirement of life vests on for passengers of small and medium boats proved useful in a recent episode when a medium sized boat was quickly sunk by a crashing wave on board. Accidents are likely to continue happening because, unfortunately, the whale season coincides with the months with worse sea conditions in the Bay. One key informant proposed the creation of a "no go" system for all vessels in the Bay imposed by the Navy. It seems that some boats will take passengers out to see whales even under the most extreme sea conditions, putting tourists under unnecessary risk. This issue is compounded by the short duration of the whale season, which puts the pressure on captains to go out under less than acceptable sea conditions.

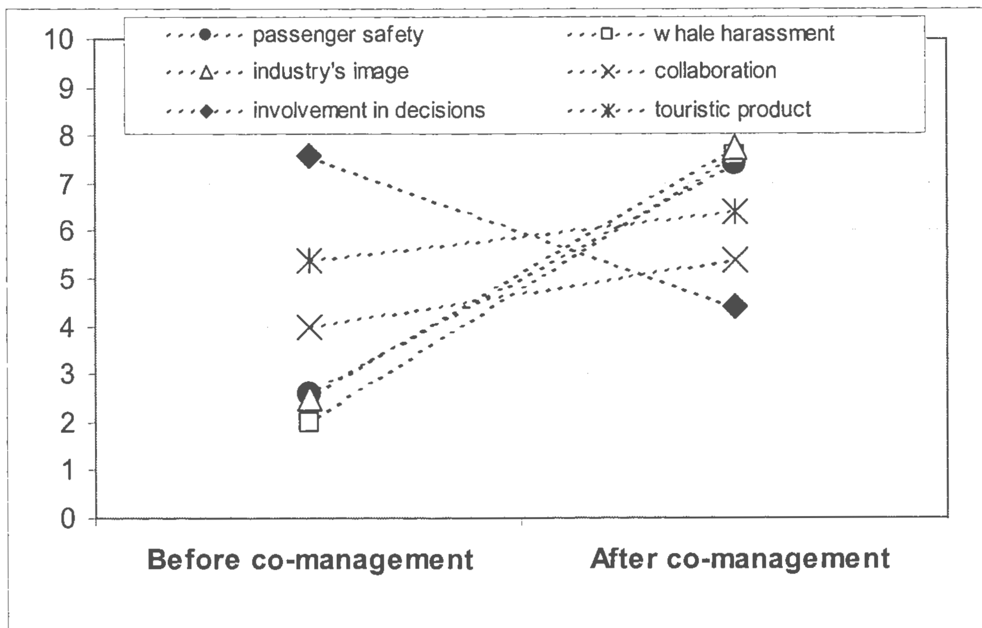

Figure 11.

Perceived changes brought by WW co-management in Samaná. Symbols denote the mean position assigned by respondents on a ladder with 10 steps (0 = worst, 10 best possible level).

Whale harassment.

Although compliance of WW regulations seems far from perfect, the regulations seem to have changed boat behavior around whales and reduced whale harassment complaints to a great extent. Many respondents recalled pre-regulation times when an indefinite number of boats would surround a whale, at a very short distance, creating a real chaotic situation. People also mentioned the limited entry system, which reduced the number of boats (from 52 in 1996 to 42 currently). One boat captain interviewed also mentioned that in the past, they inappropriately approached the whales because tourists and tourist guides would ask them to, but now they can refuse on grounds of the regulations. Another interesting factor mentioned in the previous high levels of whale harassment, was that many fishers from the bay had witnessed foreign scientists actively pursuing whales during 1991 and 1992 to obtain skin biopsies with a crossbow. Seeing the scientists actively chasing whales at high speed, set a bad example for many of these fishers who would later work in WW.

Image of the industry.

The improvement of the industry's image seems to be the greatest achievement of co-management. This seems to have a lot to do with the changes in boat behavior described above. One large boat owner even said that having a person from the monitoring and surveillance programs onboard gave his boats "more prestige" in the eyes of the tourists, who felt confident that by hosting an observer onboard, his company was committed to behaving appropriately around the whales. Most large boat owners said they had received fewer complaints of whale harassment perceptions by tourists.

Stakeholder collaboration.

Respondents believed that this aspect needed to improve. Some of the involved institutions in the MOU were accused of signing because it was a tradition, not because they had a real intention to become involved. On an individual level, some captains said that other captains refused to share information on the location of sighted whales. It is possible that if the regulations concerning respecting each boat's turn were more rigidly followed, captains would not hesitate in sharing whale location information.

Involvement in decision-making.

This aspect seems to have experienced the least improvement. We think it is because of the protagonistic role that the Environment Secretariat has gradually assumed, at the same time that small boat owners have been increasingly left out of meetings. Larger boat owners also complained that in recent times only one representative from each institution is invited to meetings on WW, unlike at the start of co-management, when the meetings were open to all members and the general public.

Tourism product.

We received mixed responses on this issue. One respondent thought that the quality of the WW experience had improved because of the previously mentioned more careful boat behavior around whales, and that slowly boat crews were learning more about the whales and providing better information to the tourists. However, another respondent said the tourism product offered had changed little, because the

industry was still focused toward quantity and not quality, and made some comments on the "commoditization" of whales. As an example, a boat owner/captain said that when the whale was breaching (a very spectacular display), he ended the trip early, because tourists had seen their fair share of the whale and did not need to stay out longer. Another respondent pointed out that the industry had little knowledge of what tourists expect from the WW trips, and he thought this information could be used to improve them.

Changes in general.

When presented with the statement "the co-management system has brought more positive than negative things to Samaná's WW industry", respondents unanimously agreed. This was confirmed by the overall positive improvements for the specific changes seen on Figure 11. When we asked respondents to comment on their most preferred changes effected by the co-management system, some of the positive aspects included that it was a system that involved many different groups and people in working together for the first time, and this had improved personal relationships. Another person said he liked the fact that communicating through VHF radios on the whale area made him feel like part of a group and not alone when he went out to sea. Another positive aspect mentioned by some captains was that, thanks to co-management, their job now was "less stressful", because there were less boats competing for the whales and that there was an established system to take turns to view them.

Nevertheless, respondents also had some general concerns about the system. Many were worried that recently the Environment Secretariat was increasing its

control over the system, by making unilateral decisions and forgetting the spirit that fueled co-management in the first place. Even though at present, stakeholders think the Secretariat has made adequate decisions, this could change with a new administration, and it would be very difficult to reclaim lost participation rights.

The lack of a participatory system to assign vacant WW permits could be a major problem in the future. Currently, the Environmental Secretariat assigns permits. Even though this is not codified, in practice, every boat with a WW permit in a season is given the opportunity to renew it the following year. However, when in recent years some permits have become available (due to death or lack of payment), their transfer has not followed pre-established norms, causing resentment among certain stakeholders. This situation is compounded by the lack of a clear definition of the rights and responsibilities attached to having a WW permit. For example, some permit holders treat it like a personal commodity. When a permit holder recently died, he passed on his three boats to each of his two sons and daughter. However, he only had two WW permits. The family requested that an additional permit be given to the daughter, given the long family history of the family in Samaná's transport history and more recently WW. We also heard of permit holders who are leasing their permits to others, and of another who sold his boat, but kept his WW permit. In the latter case, the woman purchasing the boat felt cheated, because she had been wrongly informed that she could use the it for WW. Another interesting interpretation of permit rights was given by a permit holder with a broken boat, who used it for another boat to go WW.

Comparison to other co-management systems

To evaluate Samaná's WW co-management regime, we evaluated its attainment of a number of elements identified in the literature as important for the successful management of common pool resources. For this, we selected two frames of reference: (Ostrom,1990) design principles for long lasting institutions of common pool resources and (Pomeroy, Katon & Harkes, 2001) conditions affecting fisheries co-management success. The results of this analysis are presented in Tables 28 and 29, where we have added a column which "grades" Samaná's WW co-management for each element followed by a justification. Even though there is overlap between Ostrom's and Pomeroy, Katon and Harkes' elements, we found it worthwhile to use both. While Ostrom's principles are more general, Pomeroy, Katon and Harkes' conditions are more detailed, allowing us to make more direct comparisons.

We should note that these principles and conditions are only meant to serve as a guide to establish if the required social work has been done and whether the required incentives for a long lasting system are in place. As Pomeroy, Katon and Harkes (2001) state, the lack of any of them does not necessarily mean that the system will not succeed, or that it will not contribute to the management of the resource. However, the attainment of all or most of them ensures a greater probability of success in the long term, and can inform and help prioritize present actions.

Table 28.

Analysis of Samaná's WW co-management system using Ostrom's (1990) design principles of long-lived institutions.

Principle	**Description**	**Grade and comments for Samaná's Co-management**
Clearly defined boundaries	Individuals or households who have rights to the resource (appropriators) must be clearly defined, as must the boundaries of the resource itself.	○ WW permits identify boats allowed to conduct WW. However, there is not a clear definition of who owns the permit (individuals, companies, vessels) and what is the transfer mechanism.
Congruence	Rules that restrict time, place, technology, and/or quantities of harvest are related to local conditions and to provision rules.	○ WW rules regulate behavior of vessels in the WW area; however, some rules discriminate against small boats.
Collective choice	Most parties affected by the operational rules can participate in modifying the operational rules.	■ Most small boat owners and all captains are not part of decision-making forums. Some stakeholders also feel impotent towards recent unilateral decisions taken by the Environment Secretariat.
Monitoring	Monitors, who actively audit resource conditions are accountable to the appropriators or are appropriators themselves.	○ CEBSE monitors impacts on whales from WW, but data analysis have been slow. Environmental secretariat also monitors violators of the regulations.
Graduated sanctions	Appropriators who violate rules are likely to be assessed graduated sanctions by fishers, officials accountable to the fishers, or both.	○ There is a graduated sanction system. However, some sanctions are directed towards captains only while others are also applied to the vessel owner.
Conflict resolution	Appropriators and their officials have rapid access to low-cost local arenas to resolve conflicts among appropriators or between appropriators and officials.	■ No mechanism currently exists for resolving conflicts. CEBSE has occasionally mediated disputes.
Right to organize	The rights of appropriators to devise their own institutions are not challenged by external governmental authorities.	● There is already one association of boat owners (ASDUBAHISA) as a signing party to the MOU, and the non-affiliated boat owners have also been motivated to organize.

Note: "Grades" were subjectively assigned according to the following legend: ● = excellent, ○ = good, ▲ = acceptable, □ = deficient, ■ = very deficient.

Table 29.

Analysis of Samaná's WW co-management system using Pomeroy, Katon and Harkes' (2001) conditions affecting the success of fisheries co-management. The same grade procedure was used as in the previous table.

Condition	Description	Grade and comments for Samaná's Co-management
Supra-community level		
Enabling policies and legislation	Policies and legislation need to spell out jurisdiction and control; provide legitimacy to property rights and decision-making arrangements; define and clarify local responsibility and authority; clarify the rights and responsibilities of partners; support local enforcement and accountability mechanisms; and provide user groups the right to organize.	▲ The Protected Area Framework Law, pending of approval in Congress, establishes that the Environment Secretariat can manage protected areas "...directly or through co-management agreements..." The co-management MOU signed each year by five stakeholder groups is not legally binding.
External agents	External agents are often needed to expedite the co-management process. They may be NGOs, academic or research institutions, religious organizations, government agencies, etc. They should assist the community in defining the problem; provide independent advice, ideas, expertise, and training; guide joint problem solving and decision making; and assist in developing management plans.	• The NGO CEBSE, with headquarters in Samaná, helped create and establish first the WW regulations and then the co-management system and is a signing party to the MOU. CEBSE continues to be involved in monitoring impacts and other co-management related activities, including sponsoring this evaluation. CIBIMA (University Center) was also involved in drafting the WW regulations.
Community level		
Appropriate scale and defined boundaries	The scale for co-management arrangements should be appropriate to the size of the physical area to be managed and how many members should be included so that it is representative, but not too large, so as to be unworkable.	▲ There is no definition of which and how many members (and from which communities) should be included. Current members are, for the most part, those historically linked to WW with boats in good condition.
Membership is clearly defined	The individuals with rights to WW, to participate in management, and to be an organization member should be clearly defined.	▲ WW permits establish clearly who can presently WW, but not who has a right to participate in other management aspects.
Group homogeneity	There is a high degree of homogeneity, in terms of kinship, ethnicity, religion or technology, among the group.	□ There are important differences between the large and small boat owners in terms of origin, skin color, education, socio-economic strata and vessel types.

(Continued) Table 29.

Condition	Description	Grade and comments for Samaná's Co-management
Participation by those affected	Most individuals affected by the co-management arrangements are included in the group that makes decisions about and can change the arrangements.	□ Not all WW permit holders are represented in the co-management MOU, nor in decision-making processes. Captains could also be allowed to participate.
Leadership	Local leaders set an example and courses of action for others, and provide energy for the process. Local elite may be the traditional leaders in a community, but they may not be the appropriate ones for this process.	▲We did not identify clear local leaders, except for the small boat owners at Carenero, and these are not currently involved directly or officially in co-management activities.
Empowerment, capacity building, and social preparation	Empowerment is concerned with capability building of the community to increase social awareness, autonomy over decision-making and self-reliance, and to balance power relations. It reduces social stratification and allows groups to work on a more equal level with local elite.	□ Most of the power in the current system is exerted by the Environmental Secretariat and to a lesser degree, some members of ASDUBAHISA (mostly local elite) and CEBSE. The poorest (and also most local) individuals, the small boat owners and captains, have a very limited influence on co-management processes.
Community organizations	The existence of a legitimate community organization is vital means for representing resource users and stakeholders and influencing the direction of policies and decision-making.	○ There is the Samaná boat owners' association, ASDUBAHISA, which pre-dates co-management, but does not include the small boat owners.
Long-term support of the local government unit	There must be an incentive for the local politicians to support co-management. They must be willing to share the benefits, costs, responsibility, and authority for co-management with the community members.	■ We found little evidence of support from local authorities, although they have recently expressed interest in receiving some of the funds raised by WW fees.
Property rights over the resource	Property rights, either individual or collective, should address the legal ownership of the resource and define the mechanisms and the structures required for allocating use rights to optimize use and ensure conservation of resources, and the means and procedures for enforcement.	□ The rights given to WW permit holders are unknown. There are no transfer or allocation mechanisms in place for permits. It is also not known under which conditions can one lose a permit. Boat captains, although sanctionable, have no defined rights under the system either. However, enforcement is better defined.
Adequate financial resources/budget	Funds need to be available to support various operations and facilities related to planning, implementation, coordination, monitoring, and enforcement, among others.	● Permit and ticket fees have been more than sufficient to cover the present co-management costs (according to Environmental Secretariat staff).

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(Continued) Table 29.

Condition	Description	Grade and comments for Samaná's Co-management
Partnerships and partner sense of ownership	Partners involved in co-management need to feel that the co-management process not only benefits them, but that they have a strong sense of participation in, commitment to and ownership of the process.	▲ The increasingly common practice of making unilateral decisions by the Environmental Secretariat is eroding the sense of ownership of the early days of co-management.
Accountability	All partners must be held equally accountable for upholding the co-management agreement. The partners have common access to information. Venues are provided for public discussion of issues and to reach consensus. There needs to be accepted standards for evaluating the management objectives and outcomes.	▲ Information on available WW permits, and how they are assigned each season in not easy to obtain. Also information on who gets a sanction, what type and why, is limited. Some violations go unreported, and this is eroding the credibility of the surveillance system. This is the first evaluation performed since the system was created, but there were no pre-defined standards.
Conflict management mechanism	If resource users are to follow rules, a mechanism (like a forum) for discussing and resolving conflicts is a must. Conflict management should be conducted at the local level where solutions can be found quickly. It is often useful to have a mediator who can objectively assess and propose solutions.	▲ There is no such mechanism or forum. CEBSE seems to have served as a mediator on some disputes.
Clear objectives from a well-defined set of issues	Clear objectives developed from a well-defined set of issues are essential to success. Those involved in the co-management process must see and agree that the issues are important to their daily existence.	▲ Different stakeholders seem to have different opinions on the objectives of co-management, and many do not see the need for protecting whales from boats or having a limited-entry system for permits.
Management rules enforced	Enforcement of management rules was of high importance for co-management success. Surveillance and enforcement are effected and shared by all resource users.	o WW regulation enforcement, although imperfect, seems acceptable. However, there are only regulations for the behavior of boats in the WW area, but none for other aspects of co-management (permits, etc.).
Individual Level		
Individual incentive structure	Individuals must feel that the benefits to be obtained from participation in the co-management arrangements, including compliance with rules, will be greater than the costs of such activities.	▲ There is a high time investment required from boat captains, which are also the most heavily penalized by the regulation system (and are not even permit holders). There should be more incentives for them to participate.

Discussion

Impacts on whales

Several studies have reported shifts of humpbacks to other areas as a result of human disturbances (see Lien, 2000 for a review). For example, in Hawaii, mothers and calves have been moving offshore due to increased human activities in shallower coastal areas, particularly the operation of parasail boats (Glockner-Ferrari & Ferrari, 1985; Glockner-Ferrari & Ferrari, 1990; Green & Green, 1990). However, habituation of humpbacks to the presence of vessels has also been shown with repeated exposure (Watkins, 1986), and the gradual development of 'vessel friendly' humpbacks is well known. If groups or populations of humpbacks are exposed to well-behaving vessels and that exposure is gradual, they will show an increase in inquisitive behavior toward vessels (Lien, 2000).

Even though detailed impacts on whale behavior in Samaná could not be evaluated, it appears that the general area utilized by humpbacks has remained the same for over a decade. Similarly, relative whale abundance in Samaná Bay seems to have remained constant (if not slightly increased) during the study period, and mothers or groups with calves are more common than in 1988. This is probably the result of the highly successful recovery of humpbacks in the North Atlantic (Clapham, Young and Brownell,1999), with a growth rate for the Gulf of Maine feeding stock estimated at 6.5% per year (Barlow & Clapham,1997). Given that Samaná Bay is one of the main breeding areas for this population, it is expected to reflect these population trends. Thus, it seems reasonable to conclude that the WW regulations have been

successful (so far) in regulating extreme boat behavior that could drive away the whales from their breeding habitat.

These results should be interpreted with care, however. The database resulting from CEBSE's implementation of a WW impacts monitoring system contained data collected by different observers with varied levels of training, also using slightly different protocols. Another problem with the data, was that information for the 2001 season had been temporarily misplaced at the time of this evaluation, and the sampling effort for 2002 was relatively low compared to previous years because of a lack of volunteer observers, leaving a large gap for these seasons. But perhaps the biggest criticism of the database is that observations were subject to availability of space on WW boats, as well as to the individual routes and preferences of commercial WW captains and operations. Nevertheless, we think the database contains valuable information for determining large-scale impacts.

Commitment of participants

With the exception of SECTUR, most of the signing parties to the co-management MOU seem to have fulfilled their contracted responsibilities to an acceptable degree. In addition to not fulfilling its responsibilities, SECTUR may have also intervened in WW activities in a negative way. The relationship described between *buscones* and small boat owners would seem to fall into Boissevain's (1974) definition of patronage and brokerage. According to this author, tourism entrepreneurs can be classified into patrons and brokers. Patrons are those that directly control first order resources (in this case WW boats), and brokers those who control second order resources, such as strategic contacts with other patrons, etc. (in

this case the *buscones*). The brokers are the most flexible and mobile people moving around freely in a tourist area, which is why local businesses often rely on brokers to provide them with tourists. Brokers, in turn, depend on patrons for their commission. Patronage and brokerage actually constitute a safety net that allows small entrepreneurs to operate in a rather flexible manner. According to Boissevain (1974), both patrons and brokers depend heavily on networks based on personal friendships, business transactions, family relations, marriage, ethnic, and religious bonds, and these networks often constitute more meaningful units than formal organizations and state controlled associations. In the Samaná case, however, these networks have been damaged by SECTUR's support for specific individuals that may not have these ties with the brokers (or at least not have developed them yet). This translates into what appears to be an abusive relationship in some cases. It would be very important to distinguish between positive and negative types of patron-broker relationships to reinforce the former and help small boat owners increase their benefits from WW.

We should note, however, that some respondents pointed out that SECTUR's attitude towards the co-management regime has not always been so negative. Apparently, during the previous administration (1996-2000) the Secretariat's Ecotourism Director had been very supportive and actively participated in the process. But apart from individuals, the current lack of interest seems to stem also from turf disputes as well as resource competition between the Environment and Tourism Secretariats. The local representative for SECTUR expressed his disapproval of the fact that the co-management regime is administered by the Environment Secretariat instead of SECTUR by stating that "we [SECTUR] are not arresting people for cutting

trees down, the Environment Secretariat should not be meddling with tourism resources". We should add that, before co-management, SECTUR used to charge a fee (of US$ 1) to all passengers going on WW trips. Currently, all the funds raised (from permit and passenger fees) go to the Environment Secretariat. The co-management participants need to decide if having SECTUR on board is beneficial to the regime, because, unless a better relationship is established with this Secretariat, it might be advantageous to leave it out, since the Environmental Secretariat has proven to be a good administrator.

Strengths and weaknesses of the co-management scheme

The principles and conditions identified by Ostrom (1990) and Pomeroy, Katon, and Harkes (2001) for successful management of common pool resources provided a useful checklist to evaluate the Samaná regime. One of the stronger aspects of the studied regime identified by both lists was the clear identification of individuals with rights to the resource, which the Samaná system has done in the form of WW permits, as well as a clear set of regulations accompanied by a surveillance mechanism. However, it is crucial that a transfer mechanism and further definition of the rights given by the WW permits are clearly established. Currently, permit holders only have a clear set of responsibilities (defined in the MOU), but they do not have a defined set of rights (except for being allowed to take passengers WW). The co-management system needs to go beyond the MOU document and draft these rights in a participatory manner.

The two major weaknesses we identified in Samaná's co-management scheme relate to the lack of collective choice and conflict resolution mechanisms. Decisions and conflicts have been addressed in the past in an improvised manner, but we fear that in the long term, some of the outcomes could turn co-management participants against the system. Boat owners are a divided group, with the large and medium boat owners operating from Samaná (the majority affiliated with ASDUBAHISA) and the small boat owners usually operating from smaller towns, especially Carenero. Both groups complain about the other: Large and medium boat owners about the frequent violations and fights for tourists by the small boats that hurt the industry's image; while the small boat owners complain about the former's intention of driving them out of business by pushing for a larger minimum boat size in the permit requirements. In practice, however, traditionally powerful groups (the government and ASDUBAHISA) seem to be controlling most decision-making processes, leaving out the majority of the small boat owners.

This makes the small boat owners distrust the co-management regime because they think it only endorses the large and medium boat owner's interests. In response to these criticisms, ASDUBAHISA members said they had tried in the past to incorporate small boat owners into their association, with no success. We think this might be because individuals from each group have little in common (a condition mentioned by Pomeroy, Katon and Harkes, 2001): one is formed by middle-class and relatively educated individuals, many of white skin color (including some expatriates from Canada and Europe), while the other is made up of mostly black or mulatto residents of rural communities of Samaná, usually fishers, with a lower socio-

economic and educational level. Some of the small boat owners we spoke to did not even know that a WW co-management scheme existed and what it consisted of. They have been paying their permit fees and following regulations as they would follow any other government-imposed regulation. This is understandable, given that they are not always invited to the co-management meetings, as they are not signatories of the MOU. However, small boat owners collectively hold about a third of the WW permits (15 out of 41 permits in 2003).

Given the proven difficulties of incorporating small boat owners into ASDUBAHISA, they should form their own association. But forming a small boat owners association is no easy task, as their relationship is affected by an intense competition for passengers that leak out of the main wharf of Santa Bárbara de Samaná. An interesting example of small boat owners' conflicts was that involving Simi Báez' Marine Transportation. This operation consisted of six small boats that ferried tourists to Cayo Levantado year-round and conducted WW trips during the season. It was owned by the Baéz family, which had a long history in the area of Los Yagrumos (located about 10 km east of Santa Bárbara de Samaná), and was one of the pioneers in WW in the bay. Thus, from the start of co-management, six WW permits were allocated to them. However, during 2001, other small boat owners started competing for their passengers from the adjacent beach of Caletón by selling cheaper trips. The conflict escalated, and members of the Baéz family closed the access to Caletón beach with a fence, claiming that it was on their land. The small boat owners then united, and moved their operations to the nearby town of Carenero, west of Simi Báez. Once there, they built a small wooden pier and set out to intercept all tourist

groups on their way to Simi Báez, by offering lower prices to them, their taxi drivers or their guides. In less than two years, Simi Báez was forced out of business, and could no longer afford to purchase WW permits. For the 2003 season, Simi Baéz's permits were in the process of being re-assigned at the time of our interviews.

The above-mentioned conflict as well as other issues involving small boats discussed in other sections, illustrates the potential for small boats to disrupt the whole co-management system. They are the main violators of sanctions and they compete fiercely for the whales at sea and for tourists onshore. The opinion of the Environmental Secretariat (Martínez & García 2002; Martínez & García 2003), and (unofficially) even CEBSE is that they should be eventually excluded from WW. Another argument against small boat operations presented by some respondents was their low profit margin. They believe their small earnings did not justify putting up with all the problems they caused to the rest of the industry.

We are opposed to limiting the small boat sector's participation in WW for two main reasons. First, the small boat sector represents the most local households of all WW permit recipients. Both the Secretariat and CEBSE strongly endorse an eco-tourism philosophy for their vision of WW in Samaná. Given that eco-tourism is, in essence, "responsible travel to natural areas that conserves the environment and improves the well-being of local people" (The Ecotourism Society 1991, cited in Honey,1999: p. 17), then these small boat owners, captains, and crew should be the main target of official eco-tourism efforts. Second, the small boat sector has the least economic alternatives available. The former activities for most of them consisted in small-scale agriculture (of coconut, cacao, tropical tubers) and artisanal fisheries, two

rapidly declining activities in the DR. Only these residents should decide whether WW provides more benefits (monetary or non) than other economic options available to them. For these reasons, we think it is imperative that they are incorporated into decision-making processes and that provisions are made so they can participate more fully on the co-management process and the benefits of WW.

Successful co-management?

Despite the problems with the current co-management system expressed above, we believe that, overall, Samaná's experience has been highly successful. The major problems that prompted its development (poor passenger safety, harassment to whales and a bad image of the industry) have been largely overcome, in a relatively short time. The literature on the fields of common property and participatory development suggests that institution building at the community level may take on the order of 10 years for simple, local level institutions (Berkes, 2004). Thus, Samaná's progress, in such a brief time, is remarkable. We believe that part of the success of this particular co-management system stems from the high benefits that whale tourism yield when compared to other uses of common pool natural resources. Thus, tourism may prove to be a very powerful incentive for the formation and functioning of similar regimes for natural resource management.

Nevertheless, fine-tuning the system is needed if it is going to last. Detailed and long-term studies of co-management reveal that co-management is an evolutionary process requiring mutual learning and trust building (Berkes, 2004). Thus, adaptability needs to be built in co-management efforts. Interestingly, the Samaná system has proven to learn from mistakes, especially from accidents, by

adding rules such as requiring small and medium boat passengers to wear life vests at all times and banning alcoholic beverages on board. However, like many other "implicit" rules of the system (e.g. rights given by permits), these rules need to be codified into a more comprehensive system that reflects some of the other lessons learned from this study.

Another noteworthy aspect of the co-management system in Samaná has been the crucial role played by external agents in catalyzing the whole process, as Pomeroy, Katon and Harkes (2001) and Berkes, Mahon, McConney, et al. (2001) have pointed out in out for other cases of co-management. Just the year before WW co-management started, Jorge (1997) painted a grim picture for integrated coastal management in the DR, given the lack of interest and capacity by relevant government authorities. Environmental management by the government, aside from protected area management, was almost non-existent then in the DR. Because of this, co-management in the DR has followed an opposite path than in most other published accounts, which start with a devolution of power from the authorities to the community. In this case, co-management seems to have evolved from a void of management. Including authorities in the MOU from the start seems to have been merely a way to give formality to the regime. In recent years however, it seems that government authorities want to take power back from co-management, and institute a centralized system. Posible reasons for this are the success of this co-management experience, and the creation in 2000 of the Environmental Secretariat, which caused a general increase in environmental management activities in the country.

Co-management can be viewed as continuum between purely government-based management and community-based management (Berkes, Mahon, McConney, et al. 2001). We fear that the excessive power of the government over this system could jeopardize its future, by placing too much authority and management responsibility on one end of the continuum. Keeping a balance between government interests and those of the rest of the co-management participants will be a major challenge, but one that is necessary for co-management to survive. However, the fact that successful management of a valuable natural resource can be reasonably initiated in the absence of government and then developed further with government support, gives hope to other cases in similar developing country scenarios.

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Chapter Five.

Conclusions and Recommendations

The present study has contributed to the fields of tourism, community development and tourism resource management by providing support for hypotheses in the literature, by making novel contributions, and by identifying new, important areas for research. This chapter presents a summary and discussion of our conclusions from the previous chapters, followed by recommendations.

Conclusions

Tourism's local impacts

Our study found strong local perceptions of the economic benefits from tourism. This finding was supported by evidence that tourism-dependent households have, on average, a higher income than those who are not. In addition, tourism-related workers enjoyed higher levels of job satisfaction than non-tourism workers. Furthermore, community residents believed that tourism was contributing to local ideals of progress and improvements of the quality of life.

However, differences in household income do not appear to be obtained by direct employment in the tourism industry. Rather, individual entrepreneurship and self- employment in tourism-related activities seem to be mediating most of the reported benefits. The high percentage of self-employment and the low skill levels characteristic of most respondents' occupations suggest the crucial importance of the informal sector for understanding tourism benefits to local communities in the DR.

This is in agreement with the findings of previous studies on tourism in the DR and other developing countries.

In spite of the wide agreement on the economic benefits of tourism, our research also revealed that many residents are concerned about tourism's negative impacts, especially increases in prostitution (in particular child prostitution), drug use, crime, alcoholism, deterioration of moral values, and an increasing foreign influence in their communities. Nevertheless, the community benefits (including increased money circulating, jobs, community progress and greater quality of life) seem to outweigh such negative impacts, resulting in very positive attitudes toward tourism and future tourism development by the majority of residents.

We detected few environmental concerns among locals. This could threaten the long-term viability of tourism in many sites, as environmental damage was already evident in many places. Given that tourists from developed countries tend to be more critical of environmental problems, it is possible that they will form a negative opinion about these sites and will not recommend other potential tourists back home to visit a particular location or the DR in general.

Gender differences

Our research also found that, in addition to higher incomes, tourism seems to be helping female-headed households attain a better material lifestyle as measured by ownership of household appliances. These types of households have been singled out as the poorest in the DR (as well as in many other countries). Thus, tourism work seems to be a viable option for improving their material well-being. Another gender-

related finding was that women with tourism dependent occupations enjoyed higher levels of job satisfaction than men doing the same. Nevertheless, anecdotal observations indicated that women might still not be receiving the full benefits from tourism, due to local gender ideologies and segregation of work towards predominantly low-level, domestic tasks.

Factors affecting tourism impacts

This study identified a number of personal and community level characteristics that influenced tourism impacts, as measured by likelihood of having a tourism dependent occupation and by residents' perceptions of community benefits. In terms of having a tourism dependent occupation, individuals with foreign language competency, and those who are relatively young seem to be in a better position than the rest of the population. Regarding community benefits, having frequent contact with tourists was important, as well as the type of tourism taking place.

However, in our view, our most interesting findings concern the influence of the type or types of tourism taking place in a community in determining impacts. Both Dominican and day-trip tourism proved important in determining greater community benefits and lower vice scores (respectively) as well as increasing the likelihood of locals having a tourism-related occupation. On the other hand, beach resort tourism seems to contribute to higher perceptions of vice in the community. Also, greater number of rooms (usually from the construction of large beach resort hotels) seems to foster greater sentiments of a negative foreign influence. These findings are in agreement with the importance of contact level expressed above, as large hotels tend to be enclosed or semi-enclosed, and therefore do not promote much

direct contact between the tourists and the community. In contrast, Dominican and day-trip tourists usually have more interaction with locals, through guides, food and drink vendors, transportation providers, etc. Thus, our study suggests that day trips act as a crucial link for communities to benefit from the large volume of beach resort tourists that currently visit the country, and indicates that the current model of beach resort tourism would need revision if it is to benefit adjacent communities.

Co-management of whale watching in Samaná

We found that the co-management system established in Samaná Bay was very successful, because the major problems that prompted its development (poor passenger safety, harassment of whales and a bad image of the industry) have been largely overcome, and these results have been achieved after a relatively short time. One of the stronger aspects of the system consists in the clear identification of individuals with rights to the resource, which the Samaná system has done in the form of WW permits, as well as a clear set of regulations accompanied by a surveillance mechanism. On the other hand, the two major weaknesses we identified in Samaná's co-management scheme relate to the lack of collective choice and conflict resolution mechanisms, which could threaten the system in the future.

We believe that part of the success of this particular co-management system stems from the high benefits that tourism yields when compared to other uses of common pool natural resources. The benefits provided by the industry serve as an incentive for co-management participants to cooperate in preserving the resource. In this way, the value that tourism adds to the whale resource may prove to be a very powerful incentive for the formation and functioning of similar regimes for natural

resource management. Also, Samaná provides an example of the important role played by external agents (in this case a non-governmental organization or NGO) in catalyzing co-management processes. This sets an important precedent for the management of other common pool resources where a government commitment may be lacking.

Theoretical implications

Our findings on tourism perceptions and attitudes agree with the social exchange theory, in that resident attitudes seem to be strongly influenced by the personal benefits received from tourism, whether in the form of employment (for them or their family members) or gifts. However, the positive attitudes found in both older and younger tourism destinations, do not support the tourism cycle concept widely referenced in the literature. Rather, we think that the widespread positive attitudes observed are best explained by the crucial role tourism is playing in the economy of these Dominican communities. We attribute this to the fact that rural Dominican communities often lack some of the basic public infrastructure and services. Therefore, concerns about overwhelming local infrastructure and services that are so common in developed countries were practically absent in our study population. In fact, in some cases, tourism has helped in the provision of some of them. Also, the decline of the traditional occupations of farming and fishing could also making tourism-related occupations function as the main economic option for many locals. As a consequence, the hypothesized social carrying capacity of the tourism cycle concept seems to have shifted to a higher level. Therefore, tourism development in these communities currently enjoys unconditional local support. However, we fear such

local enthusiasm towards tourism might not be met by a similar tolerance for negative impacts (especially on the environment) on the part of some tourists, which could cause a decline in the type and/or number of visitors in the near future. These findings suggest a strong difference underlying tourism studies in developed versus developing countries that needs to be considered in future studies.

Recommendations

Policy recommendations

In all three Chapters of this study, we detected a generalized rejection of official or elite sectors toward local small entrepreneurs involved in the tourism industry, as evidenced by POLITUR's restrictions on vendors and residents or the intentions to increasingly limit small boat participation in whale watching in Samaná. These attitudes seem to result from ideas that "poor" people give a negative image to the tourists, given their substandard living conditions, lack of education or skills, harassment of tourists, etc. We recognize that this may be true for many tourists who come to the country to relax in the beach and enjoy themselves without worries. However, the national policy toward tourism needs to go beyond caring for the interests of one type of tourist or the views of some tourism investors who think in this way. The DR has consolidated its place as one of the most important destinations in the Caribbean, indicating that those interests and views have been well served. Now the country seems in a good position to start thinking about community welfare in the communities where tourism is taking place.

In our view, a strategy for the long-term success of tourism in the DR needs to ensure that tourism profits reach the locals, as hiding poverty from the increasing number of tourists will be more difficult every day. Many tourists are keen to enjoy authentic experiences and interact with locals, and these attitudes should be capitalized upon. At the same time, locals should receive more training in languages and skills to better serve tourists and develop attractions and businesses that suit their tastes. Also, credit facilities should be targeted to these groups, given the prohibitive cost of capital in the DR. The important role of an NGO in the Samaná example indicates that such initiatives could be catalyzed or executed through similar public-private sector partnerships. Such partnerships could also involve regional hotel associations, tour operators, community groups and different instances of government. The large number of Dominicans and foreigners in the country with experience in the tourism industry could be recruited to better design and carry out such efforts. Tour operators (national and international) should also be involved in the design and management of existing and new attractions, especially for day-trip purposes. Their extensive knowledge of tourists' preferences and complaints could provide a valuable tool for designing or improving such attractions. In addition, they could help in marketing attractions and forecasting demand, so that realistic expectations are formed. Also, local promotion of destinations should be performed inside the country, given the positive benefits associated with domestic tourism.

Another recommendation resulting from our work is that care must be taken so that tourism-related regulations and legal measures do not stifle the local entrepreneurial initiatives. An urgent need identified is the coordination between the

different institutions and interest groups effecting restrictions on vendors and residents in tourism areas. In particular, the multiplicity of operation permits or identification cards should be eliminated. A clear and fair mechanism for permitting of vendors should be developed where needed. Also, to gain support from locals, the reputations of some of the public agents (particularly the police) should improve. In particular, their extortion of residents should be diminished. The role of POLITUR, the Tourism Police, should be revised, and its performance monitored to ensure they do not overextend their authority.

Prostitution, and particularly child prostitution, needs to be addressed by the authorities or society in general. Our work confirms other research on the limited geographical distribution of this activity (at least on a large scale); however, we also found some evidence supporting the possibility of a wide area for the recruitment of minors. Solving this problem is not easy, given that widespread poverty of rural children and their families seems to be the root cause. Some of the limited tools available for addressing this issue include public awareness campaigns, and stricter penalties for people involved in the child trade could be devised. Although they have been implemented in other countries with a similar problem, sometimes in conjunction with known source countries of pedophiles, their effectiveness is still largely unknown. We believe these options could be tested for the DR, but we also think that by increasing the number of people who benefit from tourism in other ways, many children and their families will not have to resort so such extreme practices to profit from tourists.

Finally, to ensure the long-term visitation to tourism sites, we suggest the implementation of external oversight systems on environmental quality in tourism areas. Again, local partnerships of government, NGOs and/or community groups could facilitate this task, maybe with technical assistance from outside.

Recommendations for future research

During our study, three major areas attracted our attention in terms of their potential significance in determining local tourism impacts. The first is the topic of population displacements induced by tourism development. The emerging literature on development induced-displacement in developing countries has so far been based on the development of dams, road, and other infrastructure by the public sector, although it has also developed linkages with studies on war-induced refugees. Most studies in this field indicate a similar outcome: uprooted populations everywhere tend to suffer from impoverishment. Tourism-induced displacement, has thus far not received attention in this body of literature, where it deserves a place, given its potentially similar outcomes and therefore its potential for offsetting the reported tourism-related benefits. Also, it is possible that tourism initiatives, which are usually headed by the private sector in coordination with national governments, could provide a valuable opportunity for testing novel approaches for remedying displacement-related problems.

The second area we think merits attention is the regulation of the informal sector in tourism settings. The tourism industry's interest in providing visitors with a pleasing environment, free from harassment and secure, conflicts with distributional issues of tourism benefits to the community. The DR can provide many interesting

examples for researching different ways in which regulation of informal vendors has been attempted by authorities, the tourism sector and/or vendor associations on their own, particularly in beach areas. We found many types of arrangements in the visited communities. However, their outcomes have not been evaluated. Lessons learned from such studies could help inform future policies for vendor regulation that take into account their importance in mediating local tourism benefits.

The last subject matter that we think important is researching tourism preferences. Given the favorable results that day-trip tourism seems to provide local residents, it would be very important to understand what types of day trips are more favored by tourists. This would give valuable inputs to communities or institutions working with them on how to manage the existing day trips and how to develop new ones, both for international and for domestic tourists.

Appendix 1. Household Survey

Community________________ **Observer** __________ **Date** __________ **Survey #** ______

1. In your opinion, which are the main problems in this community? ________________

2. When did tourism start around here? ________________
3. What do you like about tourism? ________________

4. What do you dislike about tourism? ________________

5. In your view: ***"Because of tourism, in this community...."***

Economic Impacts	*Strongly disagree 0*	*Disagree 1*	*Slightly disagree 2*	*Neutral 3*	*Slightly agree 4*	*Agree 5*	*Strongly agree 6*
'eople are making more money							
There are more jobs for locals							
'here are more jobs for non-local Dominicans							
There are more jobs for foreigners							
's more expensive to buy or rent a house							
Land is more expensive							
'ood is more expensive							
Tourism jobs pay well							
'here are more jobs for women							
There are more jobs for young people							
'here are more informal job opportunities							
There are more opportunities for local entrepreneurs							
'here are more opportunities for Dominican entrepr.							
There are more opportunities for foreign entrepr.							
'here are only benefits for a small group							
Socio-cultural Impacts	*Strongly disagree 0*	*Disagree 1*	*Slightly disagree 2*	*Neutral 3*	*Slightly agree 4*	*Agree 5*	*Strongly agree 6*
'he community has progressed							
Quality of life has improved							
'here is more crime							
There is more prostitution							
'here is more HIV/AIDS							
There is more alcoholism							
'here is more drug use							
Women are more independent							
'here is more demand for locally-made crafts							
There are more entertainment options							
'here are more typs of business							
More Dominicans are coming to visit							
'here is less cooperation among people							
There are more opp.to meet people from abroad							
'loral values have deteriorated							
Local traditions are maintaned							
'eople nowadays only think of money							
We are more involved in decisions that affect our community							
'he community has acquired a bad reputation							
We don't have acces to the shore or other places							

Environmental Impacts	Strongly disagree 0	Disagree 1	Slightly disagree 2	Neutral 3	Slightly agree 4	Agree 5	Strongly agree 6
'he beach is cleaner							
Beaches are eroding							
'here is more garbage							
There is more noise							
latural resources are more important							
Agricultural land has been lost							
'he community is more beautiful							
Infrastructure and Services	Strongly disagree 0	Disagree 1	Slightly disagree 2	Neutral 3	Slightly agree 4	Agree 5	Strongly agree 6
Vater service has improved							
Health service is better							
'ducation has improved							
Police service is better							
'lectricity service has improved							
Public transportation has improved							
'here are more paved roads							

4. Tourism has brought more good things than bad to this community YES NO NEUTRAL Don't know
5. Would you like that there were more tourism in this community? YES NO NEUTRAL Don't know
6. Has tourism directly affected your household ? YES NO Explain ______________________

____

9. Did you expect something different from tourism (before it arrived)? YES NO Explain______________

____

10. Do you usually talk with tourists: daily about once a week about once a month rarely have never spoken
11. When you have spoken, your experience has been: very positive positive average negative very negative
12. Have you received gifts from tourists? YES NO What?______________________
13. Are you happy with your current occupation? YES NO Don't know
14. What do you like about your occupation?______________________
15. Would you be happy if your son/daughter had the same occupation? YES NO No sabe ____________
16. If no, which occupaiton would you like for them? ______________________
17. Would you like to work in tourism? YES NO Already does Don't know Explain__________

____

18.Would you like to receive some training to work in tourism? YES NO Don't know What kind?

____

19. What are your work hours? ______________ days a week? ______________
20. Do you have small children? YES NO Who takes care of them while you work?____________
21. Who does house chores? fetch water____________ cooking______________

cleaning ______________ wash clothes ______________

22. Comments ______________________

____

____

____

Socio-Demographic Information

Marital status: single married/free union divorced/separated/widow
Time residing in community __________________ Reason for coming______________________________________
Education level achieved ______________ Speaks 2nd language? SI NO Inglés Alemán Italiano Francés Creol [Observer] Skin color black 10 9 8 7 6 5 4 3 2 1 white
[Observer] Relative wealth of household very rich 10 9 8 7 6 5 4 3 2 1 very poor

Household composition

Sex	Age	Relationship to HH	Place of Origin	Productive Activities	$RD x month
1. F M		*Head of HH*		1. 2. 3. 4.	1. 2. 3. 4.
2. F M				1. 2. 3.	1. 2. 3.
3. F M				1. 2. 3.	1. 2. 3.
4. F M				1. 2. 3.	1. 2. 3.
5. F M				1. 2.	1. 2.
6. F M					
7. F M					
8. F M					

Do you receive remittances or other economic support? YES NO $RDxmonth:______From ____________

Material assets

House: own rented borrowed
No. of bedrooms? _____
House walls: cement wood other ______________________________
Floor: ceramic cement soil other ______________________________
Roof : cement clay shingles aluminum sheets palm thatch asbestos sheets other ________
fridge gas stove charcoal/wood stove fan AC electricity generator radio TV telephone cellphone washing machine toilet letrine water well running water land bicycle car/truck motorcycle mules/horses/donkeys cows goats chickens boat
Other______________________________

In order of importance, which activities provided income for your household BEFORE TOURISM? (include remittances)

1st Activity: ______________________ by who ____________ $RD x month:____________

2nd Activity: ______________________ by who ____________ $RD x month:____________

3rd Activity: ______________________ by who ____________ $RD x month:____________

4th Activity: ______________________ by who ____________ $RD x month: ____________

5th Activity: ______________________ by who ____________ $RD x month:____________

6ta Activity: ______________________ by who ____________ $RD x month:____________

Appendix 2. Primary occupation (coded from most important activity declared) of respondents. N = 785.

Small business owner	**Total**	**Women**	**Men**
Colmado*	25	48	52
Bar/restaurant*	20	65	35
Local shop*	5	80	20
*Comedor**	4	50	50
Hair salon	4	100	0
Gift shop*	3	33	67
Other	3	33	67
Small hotel*	2	0	100
TOTAL Small business	**66**	**56**	**44**
Wage earner			
Public Sector			
Other	18	17	83
Teacher	12	100	0
Janitor*	2	100	0
Private Sector			
Other	21	95	5
Bartender	20	85	15
Custodial workers*	14	0	100
Domestic work*	12	100	0
Hotel chambermaid*	9	100	0
Kitchen help*	6	17	83
Waiter / waitress*	5	80	20
Hotel entertainer	5	20	80
Hotel maintenance*	5	0	100
Hotel other*	5	60	40
Gardener*	4	0	100
Cook / chef	4	0	100
*Comedor**	2	100	0
Dive/ water sports center	2	0	100
TOTAL wage earner	**146**	**56**	**44**
Housewife	**122**	**100**	**0**
Retired	**10**	**20**	**80**
Student	**9**	**100**	**0**

Family labor	**Total**	**Women**	**Men**
Colmado*	5	100	0
Bar/restaurant*	2	100	0
*Comedor**	2	100	0
Other*	2	100	0
TOTAL Family labor	**11**	**100**	**0**
Self-employed			
Professional	4	50	50
Non-Professional			
Fisher*	150	1	99
Farmer*	47	6	94
Food/drink vendor*	32	81	19
Trader (produce, fish)*	24	37	63
Petty trader*	22	68	32
Construction*	18	0	100
Tourist transp.	13	0	100
Other*	11	45	55
Odd jobs*	10	0	100
Craft vendor*	10	10	90
Artisan	9	33	67
Carpenter	8	0	100
Tourist guide	8	50	50
Rental home/rooms*	7	86	14
Rental (other)*	7	0	100
Electrician	3	0	100
Transportation	6	0	100
Hair dresser / weaver	6	100	0
Tourist transportation*	6	0	100
Animal husbandry	5	60	40
Prostitute*	4	100	0
Repair (various)	4	0	100
Seamstress / tailor	3	67	33
Beach vendor*	2	100	0
Trader (unspecified)*	2	100	0
TOTAL Self-employed	**421**	**23**	**77**

* denotes occupations that generally required unskilled labor.

Appendix 3. Key Informants for WW Evaluation

- José Mateo, Ecotourism Director, AP Sub-ministry.
- Lorenzo Martínez, Coordinator for the whale seasons since 1999 in Samaná under the AP Sub-ministry.
- Noel Caccavelli, observer for the WW surveillance team under the AP Sub-Ministry.
- Meeting with three boat owners affiliated with ASDUBAHISA.
- Meeting with two captains for boat owners affiliated with ASDUBAHISA.
- Edmund Báez, Representative for the Tourism Ministry in Samaná
- Patricia Lamelas, director of CEBSE
- Meeting with 20 small boat owners from Carenero village.
- Meeting with 14 captains for small boat owners of Carenero.
- (Anonymous) Booth ticket employee for the Environment Secretariat during the 2001-2002 whale seasons.

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