



A CENTURY OF UNSUSTAINABLE TOURISM IN THE CARIBBEAN

LESSONS LEARNED AND OPPORTUNITIES FOR CUBA



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Top: Viñales Valley; Bottom: Central Havana and the
Capitol Building

A Century of Unsustainable Tourism in the Caribbean: Lessons Learned and Opportunities for Cuba

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Preface

Over the past century, tourism in the Caribbean has been marked by an explosion of travelers from North America and Europe traveling south in search of relaxing, tropical environments. Unfortunately, the rapid development of the Caribbean tourist industry has occurred at the cost of the sustainability of Caribbean cultures and ecosystems. Tragically, the past 50 years have seen unprecedented environmental degradation in the Caribbean. A major report documents an average decline of coral cover in the Caribbean of more than 50 percent since 1970¹ due, in part, to tourism pressure. Landscape modification due to tourism development as one of the main contemporary drivers of habitat loss in the Caribbean.² Historic and cultural resources, and culture itself, have been impacted by tourism. The islands of the Caribbean share a history rooted in European exploitation, and in some ways, tourism in the Caribbean today remains an extension of this exploitation through economic, social, and environmental degradation.

Meanwhile, Cuba has followed a markedly different path, in part due to its socialist path following the 1959 revolution and in part due to the development of strong environmental laws and practices. Many of Cuba's natural ecosystems remain healthy and vibrant, including coral reefs. At the same time, Cuba's cultural and historic resources reflect a rich, vibrant and unique culture that shows little of the signs of homogenization suffered by much of the rest of the Caribbean.

This report had its origins as a comprehensive resource document to help us better understand the adverse impacts of tourism on the Caribbean in the context of ongoing efforts in Cuba to avoid those mistakes, both with respect to the environment and with respect to historic preservation and culture. As the project evolved, we recognized its potential to support the efforts of the Cuba-U.S. Sustainability Partnership (CUSP), a project of the Center for International Policy, Ocean Doctor and Robert Muse & Associates, in consultation with Cuban governmental and nongovernmental agencies, to support Cuba's efforts to chart a sustainable course in the face of political changes and economic pressures. Hence, the document was augmented to assess Cuba's touristic history, understand the lessons learned from its Caribbean neighbors, and explore the unique opportunities it has moving forward toward a future of sustainable tourism.

This volume is not meant to be a comprehensive history of tourism in the Caribbean, nor is it meant to be a comprehensive analysis of tourism in Cuba. For the latter we refer the reader to *Tourism in Cuba: Riding the Wave Towards Sustainable Prosperity* by Richard E. Feinberg and Richard S. Newfarmer, a Brookings Institution publication³ which we cite often in this report.

Rather, our hope is that this is an integrative work that provides new insights and inspires new dialogues and ideas about tourism and sustainability, in Cuba and beyond.

CUSP was formed several months after the simultaneous announcements by Presidents Obama and Castro that Cuba and the US would begin to normalize relations, after which there was an overwhelming eruption of tourism and investment interests from the US, creating a sense of great urgency to address a range of issues, including tourism. However, such pressures from the US have waned during the Trump Administration. Recent reports show US visitation to Cuba has dropped 40 percent during the first months of 2018 as compared to 2017.⁴ Nevertheless, tourism in Cuba continues to grow, albeit less rapidly, and with new leadership in Washington, US visitation to Cuba could resume its growth.

We believe this is an ideal moment in time to take stock of tourism's impact in the Caribbean and, in collaboration with our Cuban colleagues and friends, thoughtfully consider the exceptionally sustainable future that Cuba has an opportunity to create.

¹ Jackson JBC, Donovan MK, Cramer KL, Lam VV (editors). (2014) Status and Trends of Caribbean Coral Reefs: 1970-2012. Global Coral Reef Monitoring Network, IUCN, Gland, Switzerland.
https://www.iucn.org/knowledge/publications_doc/publications/?uPubsID=5035

² IUCN. *Impacts of Hotel Siting and Design On Biodiversity In The Insular Caribbean: A Situational Analysis*. Gland: IUCN; 2011:25. Available at: <https://portals.iucn.org/library/efiles/documents/Rep-2011-015.pdf>. Accessed March 4, 2016.

³ Feinberg, Richard E. and Richard S. Newfarmer, *Tourism in Cuba Riding the Wave Towards Sustainable Prosperity*, The Brookings Institution

⁴ Faiola, Anthony. May 12, 2018. "The Great American Tourism Boom in Cuba Goes Bust." Washington, DC: The Washington Post. A1

1 A Century of Unsustainable Tourism in the Caribbean

1.1 Tourism Development in the Caribbean

1.1.1 Pre-Tourism Historical Perspective

The Caribbean islands share a history rooted in European conquest. Columbus first landed on an island in the Bahamas in 1492. Believing he had reached his intended destination of East Asia he claimed the island for Spain and named it San Salvador. The Spanish continued colonizing the Caribbean region in the late 15th century and 16th century and claimed the entire Caribbean and most of Latin America as their own, but primarily settled on the largest islands including Cuba, Jamaica, Hispaniola, and the Dominican Republic. The native people of the islands were found to have ornamentation made from gold. Thus, the Spanish focused their initial efforts on gold mining, but were met with only modest returns. Colonists then turned to production of tobacco and coffee beans in some regions. Tobacco production in the Caribbean declined in the mid-1600's as farmers were outcompeted by the production ability and quality of tobacco from the colony of Virginia.⁵ However, it was discovered that sugar cane grew very well in the Caribbean.

Sugar cultivation requires high temperatures, steady rainfall, and high humidity.⁶ This type of climate was not readily found in Europe resulting in scarcity and high sugar prices in Europe. Sugar cane was initially introduced to some Caribbean islands in the early 16th century, but most production efforts were initially focused elsewhere in Mexico and Peru.⁷ In the early 18th century, sugar had shifted from a luxury item in Europe to a demanded item from Europe's growing working class. The production of sugar cane and the rise of sugar plantations changed the trajectory of the Caribbean islands. The growing demand for sugar and the establishment of plantations impacted the development of the island nations as not only an almost singularly agricultural export-based economy, but a monoculture agricultural economy. Large areas of forest were cleared to create the large sugar plantations and little original forest remains on the islands.

The Spanish rapidly drove the native people, now referred to as Amerindians, close to extinction through disease, genocide, and enslavement. Slaves were then brought from Africa to supplement the labor of the Amerindians. With the decline of the Spanish Empire, the Netherlands, France, and Britain began to claim territory in the 1600's, colonize the islands, and also import African slaves to labor in the plantations. The 1600's and 1700's involved a steady stream of battles, takeover of islands, and ceding of territories between the original colonizers. St. Eustatius changed hands between the Dutch and the British ten times between 1664 and 1974.

With the growing demand for sugar, African slaves continued to be brought into the Caribbean islands from the 16th to 19th centuries. By the 1750's, approximately 9 out of 10 people were

slaves on the islands where sugar was grown.⁸ Sugar, and subsequently the island colonies, was so valuable that at the Treaty of Paris the French ceded their entire claim to Eastern Canada (now Quebec) in exchange for retaining Saint Domingue (part of Hispaniola at the time), Martinique, and Guadeloupe.⁹

Slavery was not abolished in the Caribbean until the 1800s, with Cuba the last island to abolish slavery in 1886 (Figure 1). Even after the abolishment of slavery, the plantation system remained in effect. Indentured servants were brought in from China, India, and Portuguese countries in addition to the continued use of freed slaves. However, the labor costs significantly impacted the plantations overall costs. This cost, coupled with technological advances in production throughout the world, increased sugar production competition globally. Overproduction, international rivalries, and slave rebellions caused strains on the 18th century plantation systems. Ultimately, the French and British plantation systems collapsed allowing the rise of the Cuban plantation system in the 19th century which was heavily tied to American market interests. Cuba became the dominant producer of sugar from the 1830's through the 1960's. By 1868, Cuba produced one third of the world's sugar.¹⁰



Figure 1. Abolition of Slavery in the Caribbean Timeline (Source: Hillfighter¹¹)

While slavery had been abolished, most of the islands were still under colonial rule. Only Haiti and the Dominican Republic gained independence before 1900.¹² The move towards decolonization and timing differs between islands. The worldwide economic depression of the 1930's, the island economies that focused on one or two export crops, and the poverty on the islands helped lead to unrest and unions that demanded self-government. The process of

emancipation and decolonization stretched out over nearly a century and impacted the social and economic development of the islands (Table 1). However, independence did not significantly change the economic situation for the islands as export crops still dominated their economies and export prices were still dictated internationally.

Table 1. Caribbean Islands Timeline of Independence

Caribbean Island	Date of Independence	Caribbean Island	Date of Independence
Haiti	1804	Grenada	1974
Dominican Republic	1844	Suriname	1975
Cuba	1902	Dominica	1978
Jamaica	1962	St. Lucia	1979
Trinidad & Tobago	1962	St. Vincent	1979
Barbados	1966	Antigua & Barbuda	1981
Guyana	1966	Belize (formerly British Honduras)	1981
Bahamas	1973	St. Kitts & Nevis	1983

Caribbean leaders recognized the need to diversify their economies yet had few choices after being singularly dependent upon and exploited by the sugar plantation system. Thus, tourism, which was already occurring in the Caribbean on a small scale, began to be promoted in the international community as a way for economic development for the region.

1.1.2 Tourism Development in the Caribbean

Tourism was attractive as a replacement for sugar revenues, offering the draw of the Caribbean's inviting climate and environment and relatively low local investment. Eventually, however, the tourism sector would become similarly exploitative, following in the sugar industry's path of dangerous singular-dependency and largely foreign ownership.

Paralleling the development of the plantation economy, Europeans began visiting their corresponding colony islands as tourists beginning in the 1800s. Architecture reflected the image of Europe and services were catered to meet the needs of the Europeans. Resorts were built in the Bahamas, Jamaica, and Barbados in the early 19th century. Americans however,

reached the Caribbean in large numbers for the first time by advent of the US- owned United Fruit Company. This produce company used dual-purpose “banana boat cruises,” delivering tourists to the islands on the way out, and bringing bananas from Central and South American plantations to the States on the return voyage.¹³ Tourism in the Caribbean grew steadily from this point, with a noticeable spike in the 1920s when sunbathing was promoted in popular culture as a sign of health, and more dramatically in the 1960s when the development of the long-haul jetliner made a Caribbean vacation financially and technologically possible for the average vacationer.¹⁴ Europeans could now reach the Caribbean in 8 hours versus a week or more by ship. This surge in arrivals coincided with the decline of plantation economies, and large international organizations such as the World Bank and United Nations saw economic opportunity in the switch from sugar-based agriculture to tourism. During this time international organizations and many Caribbean governments encouraged development of the tourist sector as a means of national development.¹⁵

Table 2. Timeline of Tourism Development in the Caribbean

1800's: Resort hotels are built in the Bahamas, Jamaica, and Barbados as tourism begins to increase. Arriving on steamships are wealthy Americans and Europeans interested in the curative benefits of bathing. Many Caribbean islands are colonies of European countries and Europeans visit their corresponding colony island. Americans primarily visit the Bahamas and Cuba.
1880's: Dual-purpose banana boats are used to deliver tourists to the Caribbean and export bananas. The United Fruit Company (U.S. owned) formed in 1899 is the largest company to operate these cruises. ¹⁶
1920's: Tourists visit the Caribbean for sunbathing as a tan begins to be seen as a sign of health. ¹⁷
1950's - 1960's: Encouraged by the United Nations and World Bank, Caribbean islands (beginning with Puerto Rico, the Bahamas, and Jamaica) begin to invest in tourism as a development tool. ¹⁸ In Cuba, tourism is the second largest earner of foreign currency after sugar with over 300,000 visitors, primarily from the United States, each year. ¹⁹
1960's: The development of economical long-haul jet airplane puts the Caribbean in reach financially and technologically for the average vacationer. ²⁰ Visitors from Europe travel to the Caribbean in 8 hours rather than requiring a three-week trip by ship. ²¹ The rush is on for tourists' dollars.
1960's - 1970's: Caribbean governments begin to entice foreign investors with incentives such as waivers from labor legislation, duty free imports of raw materials and capital goods, and exemptions from taxation or restrictions on profit repatriation. ²² Between 1961 and 1971 tourism in the Caribbean increases from roughly 720,000 visitors to over 4.6 million visitors per year. ²³
1980's: “Sun, Sand and Sea” tourism becomes the main tourism product for the region. ²⁴
1990's: Cuba's “Special Period,” the economic crisis resulting from the withdrawal of financial

support from the Soviet Union led the nation to develop tourism as a means of supporting the national economy.

2000's: High volume mass tourism dominates the tourism market in the Caribbean with prepay travel packages for resorts and cruise ship vacations.

1.1.3 Current Status of the Caribbean Tourism Industry

1.1.3.1 Global Travel & Tourism Statistics and Comparison

Direct contribution: The World Travel and Tourism Council defines direct contribution as “the GDP generated by industries that deal directly with tourists, including hotels, travel agents, airlines and other passenger transport services, as well as the activities of restaurant and leisure industries that deal directly with tourists”.²⁵

Total contribution: “GDP generated directly by the Travel & Tourism sector plus its indirect and induced impacts”.²⁶

Figure 2 below illustrates the relationship between direct, indirect, induced, and total contribution in the tourism industry.

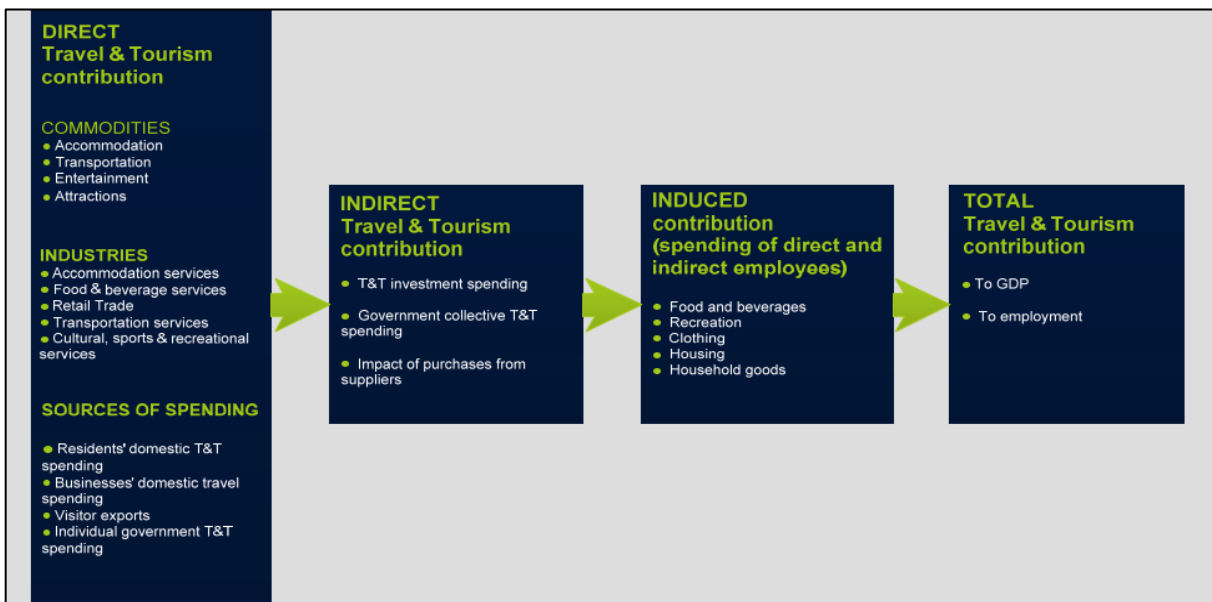


Figure 2. Direct, Indirect, Induced, and Total Contribution of Travel & Tourism (Source: WTTC 2015²⁷)

Tourism is one of the fastest growing sectors in the world. The direct contribution of travel and tourism to global GDP in 2014 was 2.3 billion USD/3.1% of GDP and is forecast to increase to 3.7% in 2015.²⁸ Globally in 2015, the indirect contribution of tourism and related economic activities generates 9.8 per cent of GDP and employs 277 million people, or 1 in every 11 jobs.²⁹

The Caribbean is considered the most tourism dependent region in the world³⁰. It leads all regions in relative share of total contribution to GDP, total contribution to employment, investment contribution to total capital investment, and visitor exports contribution to total exports (Table 3).

Table 3. Caribbean Travel and Tourism Economic Impact 2014 (Source: WTTC 2015, Caribbean Report³¹)

Travel & Tourism's Total Contribution to GDP		2014 % share	Visitor Exports Contribution to Total Exports		2014 % share
1	Caribbean	14.6	1	Caribbean	17.8
2	South East Asia	12.0	2	North Africa	10.7
3	North Africa	11.1	3	Oceania	9.9
4	Oceania	11.0	4	Sub Saharan Africa	7.0
5	European Union	9.7	5	South East Asia	7.0
6	Latin America	9.2	6	North America	6.8
7	North East Asia	8.9	7	Other Europe	6.8
8	North America	8.2	8	European Union	5.8
9	Other Europe	7.6	9	Latin America	5.6
10	Middle East	7.4	10	South Asia	4.7
11	Sub Saharan Africa	6.8	11	Middle East	4.7
12	South Asia	6.8	12	North East Asia	4.3

Travel & Tourism's Total Contribution to Employment		2014 % share	Travel & Tourism Investment Contribution to Total Capital Investment		2014 % share
1	Caribbean	13.0	1	Caribbean	12.2
2	Oceania	12.0	2	South East Asia	7.4
3	North Africa	11.3	3	Middle East	6.8
4	European Union	11.1	4	North Africa	6.7
5	North America	10.5	5	Latin America	6.3
6	South East Asia	9.7	6	South Asia	5.9
7	North East Asia	8.4	7	Sub Saharan Africa	5.5
8	Latin America	8.3	8	European Union	4.9
9	South Asia	7.9	9	Oceania	4.9
10	Middle East	7.6	10	North America	4.0
11	Other Europe	6.3	11	Other Europe	4.0
12	Sub Saharan Africa	6.2	12	North East Asia	3.0

1.1.3.2 Caribbean Tourism Statistics

Tourism is the dominant sector in the Caribbean region and is the key driver of economic growth. In 2014, stayover arrivals in the Caribbean reached 26.3 million (not including cruise ship arrivals). A hefty increase of approximately 3,554% since 1967 (Table 4).

Table 4. Caribbean Stayover Tourist Arrivals (in millions), 1961 to 2014
(Sources: World Tourism Organization and Caribbean Tourism Organization data³²)

Year	Tourists	Percent Increase
1961	719,777 ^e	-
1970	4.2	483.51%
1980	6.9 ⁿ	858.63%
1990	12.8	1678.33%
2000	20.3	2720.32%
2010	23.0	3095.43%
2014	26.3	3553.91%

^e Estimated; ⁿ New Series: (Includes tourist arrivals in Cancún and Cozumel)

In 2014, the direct contribution of travel and tourism to the Caribbean's GDP was 16.1 billion/4.5% of GDP and the total contribution to GDP was 51.9 billion/4.6% of GDP. Contribution has been on a relatively steady increase since 1990 except for a drop after the 2008 world economic crisis and is projected to continue its climb.³³

In some countries, visitor exports, defined as money spent by foreign visitors to a country, account for more than half of their total exports. In Anguilla, visitor exports contributed 89.2% to total exports in 2013; the highest in the world. Antigua & Barbuda was fifth in the world with 76.1% contribution.³⁴ In 2014, direct employment in tourism in the Caribbean was 692,000 individuals/4% of the population with total employment at 2,231,500 individuals/14.6% of the population (Figure 3).³⁵

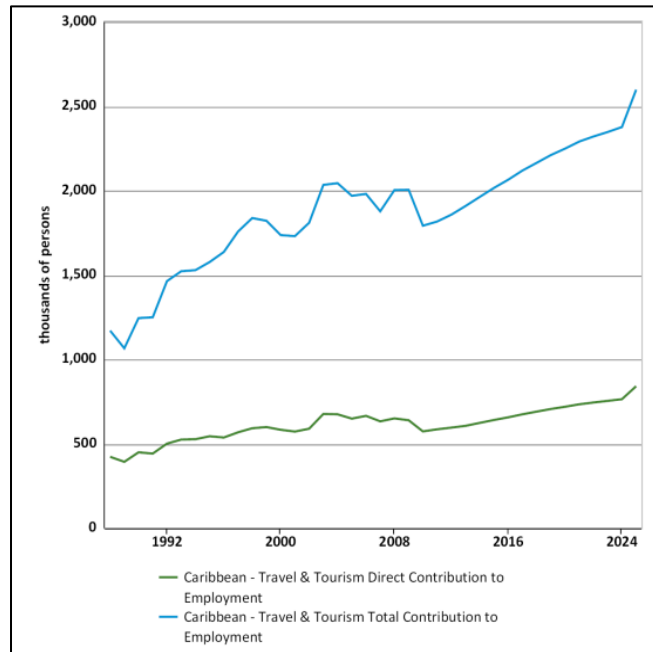


Figure 3. Caribbean Employment in Tourism, 1988 - 2015 with projections to 2025 (Source: Created with Knoema³⁶)

Both direct and total employment in tourism has shown fluctuations over time and like contribution are impacted by the global economy and in particular the U.S. economy. Approximately half of all visitors to the Caribbean are from the United States.³⁷ Thus, in many ways the success of the Caribbean economy is at the whim of the U.S. economy. The financial crisis of 2008 had a great effect on Caribbean tourism with tourist arrivals decreasing dramatically (Figure 4). Additionally, between 2000 and 2012 the Caribbean share of the global tourism market decreased from 2.5% to 2%.³⁸ However, the current strength of the U.S. economy is again being felt in the Caribbean. Expedia reports a 35% increase in U.S. guests to the Caribbean in the first three quarters of 2014 due to the U.S. economy.³⁹

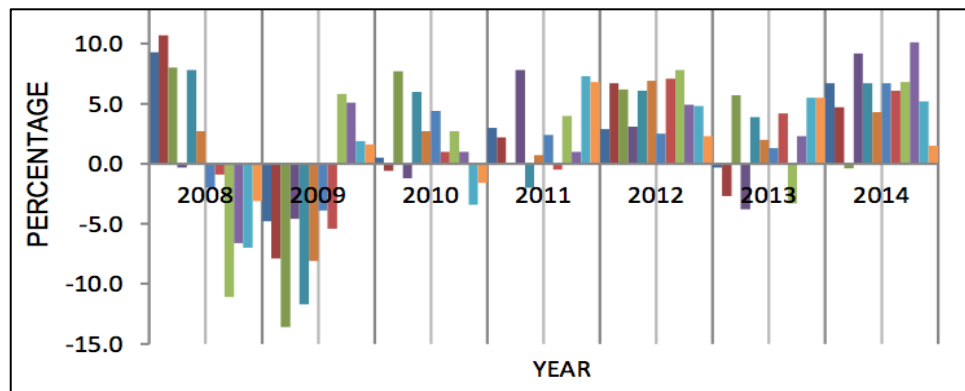


Figure 4. Monthly Changes in Caribbean Tourist Arrivals (Source: Caribbean Tourism Review 2014⁴⁰)

1.1.3.3 Hotel Statistics

Spending on hotels account for a significant portion of the money spent by tourists. However, data on the hotel sector in the Caribbean is challenging to quantify with current data collection methods. The Caribbean Tourism Organization provides some statistics and generalities from Smith Travel Research that reveals year to year trends such as:

- Room stock in the Caribbean expanded by .8% in 2014
- 2.4% more rooms were sold from the year prior
- Room Occupancy Rate increased from 67.1% to 68%
- Positive trends were seen in Average Room Rate and Revenue per Available Room.⁴¹

However, this data represents only the 26% of total room stock in the Caribbean that was reported and gives no indication of type of room in terms of all inclusive, condo style, or traditional room. David Jessop of the Caribbean Council called for better data collection saying current data, “did not indicate how this was spread across the industry or if these averages are enough to enable older or tired Caribbean owned properties to undertake the upgrades and training that some so badly need. The figures also do not indicate the types of properties where visitors are now staying. Over the past five to ten years there has been a dramatic growth in chain hotels across the region, in boutique hotels aimed at upscale visitors, and in the numbers of rooms available in condominiums, villas or apartments”.⁴²

In the Caribbean, there are over 250 all-inclusive resorts found in more than 20 of the Caribbean Islands.⁴³ Approximately 70% of branded lodging in the Caribbean is in the form of all-inclusive resorts (percentage based on total number of rooms in branded lodging supply) (Figure 5).⁴⁴ In the Dominican Republic, Jamaica, and Cuba it is estimated that the share of room stock for all-inclusive resorts is over 90% of branded lodging.⁴⁵ A recent article in Travel Weekly discussed the appeal and rise of the all-inclusive resort model in the Caribbean. It points out that hidden resort fees, Wifi charges, and checked baggage costs have increased the appeal of a vacation experience where everything is included. The CEO of Sandals Resorts International, Adam Stewart, predicts the all-inclusive will be the fastest growing sector in the next decade.⁴⁶

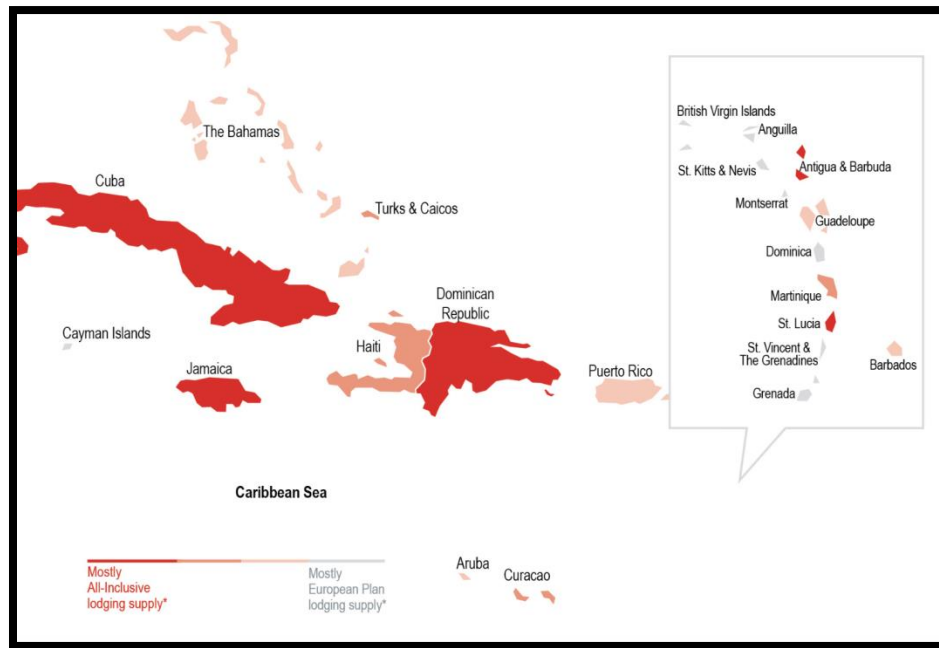


Figure 5. Caribbean Countries Level of All Inclusive Lodging (Source: Jones, Lang, LaSalle⁴⁷)

1.1.3.4 Cruise Ship Tourism Statistics

Cruise vacations are one of the fastest growing sectors in tourism and travel. Since 2009, passenger numbers have rapidly increased 24% from 17.8 million to 22.1 million. North American is the most important source market accounting for 58.6% of the cruise ship travelers in 2014.⁴⁸

The Caribbean leads the global market with 36% of available cruise bed days in 2014. Of 24 Caribbean destinations reporting cruise data in 2014, 21 countries experienced increases, with 14 countries experiencing double digit increases (see Figure 6). Martinique had a 71.3% increase, Belize a 42.9% increase and were in the top five performing destinations.

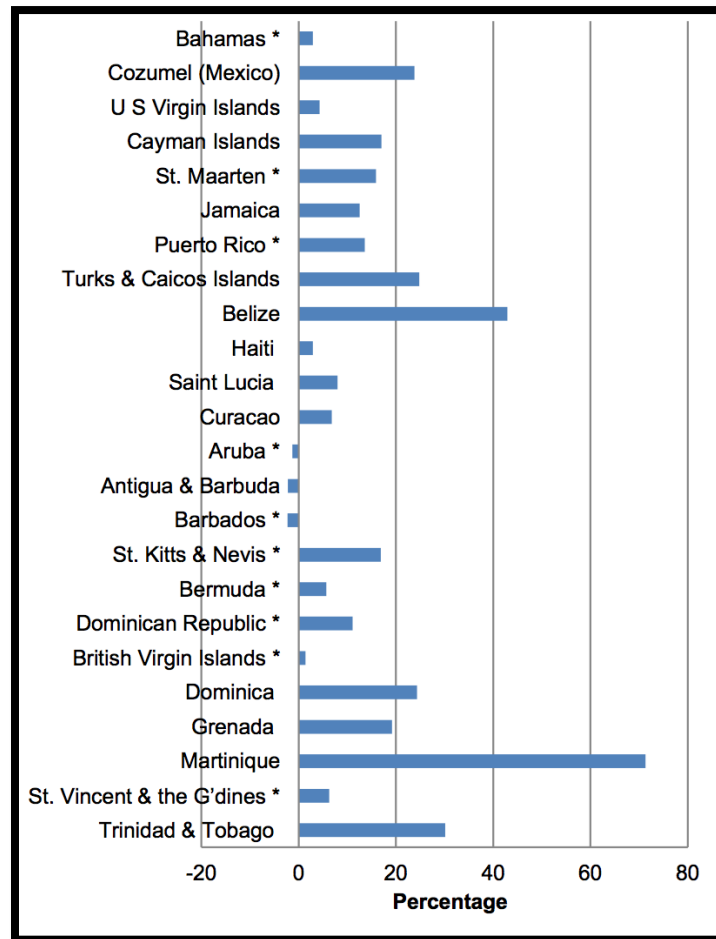


Figure 6. Change in Cruise Passenger Arrivals in the Caribbean (Source: Caribbean Tourism Review, 2014)

The amount spent onshore by cruise visitors varies widely between countries and research statistics differ, but it is considered to be around \$116 to \$158 per day.⁴⁹ The average amount spent by stayover tourists is \$200 to \$250 per day.⁵⁰ Average length of stay for stayover arrivals is 7.3 nights in 2014.⁵¹

1.1.4 Economic Control of the Caribbean Tourism Industry

The tourism industry is a vital part of most Caribbean island economies, but the players that control and profit from the Caribbean tourism industry are primarily non-Caribbean entities. The tourism industry is made up of a number of component parts: land, hotels, labor, management, transportation, marketing, agriculture, distribution, and entertainment.

The rapid expansion of the sun-sand-sea model of tourism that began in the 1960's was not powered by Caribbean owned businesses. Under colonial rule, Europe began diversifying its industry and economy, but continued to use their colonies to primarily provide them with sugar. Thus, even after the decline of the sugar plantation, the Caribbean people were poor and

mostly uneducated, and the islands had little diversified industry to replace the sugar plantation.⁵²

Additionally, many of the islands were just establishing their own independence in the 1960's and the 1970's. Tourism was optimistically promoted by international agencies as a development tool during this time, but the islands were not in a position to develop their own tourism industries from within. Rather, development agencies and banks including the World Bank and USAID provided financing.⁵³ Multinational corporations, hotel chains, and tour operators provided with financial incentives and waivers created and expanded the mass tourism industry in the Caribbean.⁵⁴ Using tourism as a development tool initially began in Puerto Rico, Jamaica, and the Bahamas in the late 1950's and early 1960's with other Caribbean countries following at varying paces and levels depending on their other options.⁵⁵

Caribbean governments begin enticing tourist companies with waivers from labor legislation, duty-free imports of raw materials and capital goods, and tax exemptions. However, with limited experience, technical expertise and capital for necessary investments, Caribbean islands were not in a position to develop a comprehensive tourist sector from within.

Multinational corporations, hotel chains, and tour agencies took the lead in developing the infrastructure and capacity needed to keep up with the increasing demand for cheap accommodations in the Caribbean. As a consequence, the Caribbean is now the most tourism-dependent region in the world, but the players that control and profit from the tourism industry are largely non-Caribbean.

Many governments jumped in feet first, but unfortunately tourism required more significant financial outputs than initially expected for infrastructure to create the modern, Western style amenities that tourists required.⁵⁶ Money was and is borrowed to create the roads, airports, attractions, sewage facilities, landfills, and reliable electrical services needed to entice tourists. While some of the infrastructure certainly benefits the whole community, much of the infrastructure is centered on tourism zones that are not embedded within the larger community. Many Caribbean governments went into significant debt borrowing to create the needed tourism infrastructure. Thus, many Caribbean countries moved quickly from sugar dependency to tourist dependency.⁵⁷

In *Last Resorts*, Patullo states, "When a third world country uses tourism as a development strategy, it becomes enmeshed in a global system over which it has little control. The superior entrepreneurial skills, resources and commercial power of metropolitan companies enable them to dominate many Third World tourist destinations".⁵⁸ The Caribbean does not have financial control over the tourism industry in the Caribbean. The sun, sand & sea mass tourism model was promoted and implemented by offshore sources. Patullo states:

Airlines, tour operators, travel agents, and hoteliers are the key players in the tourist industry jigsaw. These three institutions, especially the airlines and tour operators, are largely owned, controlled and run from outside the region. Sometimes, through vertical integration, they are corporately linked, controlling every stage of the tourist's holiday. The bigger companies continue to buy up smaller ones, thus weakening competition and choice. As this continues, so the region is faced with doing business with fewer and larger corporations. At the same time, the Caribbean does not have any control over those industries that channel and distribute tourists to and within the region.⁵⁹

Estimates suggest about 80% of the mass tourism market is controlled by transnational corporations.⁶⁰ The tourism industry continues to rely on foreign investment to build the large hotels that dominate the industry. While there are intra-regional airlines owned locally, they often run at a deficit while the main airlines are foreign owned and have control of the air routes. Tour operators also direct the flow of the tourism industry with tour packages that include the booking of both flights and the all-inclusive hotel. Furthermore, while many governments financially depend on tourism, the resorts were often built with significant tax incentives and concessions.⁶¹ Recent studies have found that although tax incentives may bring in foreign direct investment (FDI), the incentives have not increased overall private investment or economic growth.⁶²

1.1.4.1 Cruise Ship Dependency

It is reported that the cruise industry contributes \$2 billion annually to the Caribbean, but information on how much of that truly makes it into the Caribbean economy is widely disputed. While there is a lack of quality data on leakage in the industry, it has been found that no matter the amount many Caribbean islands are dependent on the cruise ship industry (Table 5). The world's two largest companies are Carnival Corporation (CCL) and Royal Caribbean Cruises Ltd (RCL). Together, they account for 71.7% of the worldwide cruise market share of revenue.⁶³ All cruise lines are foreign owned with vertically integrated services that keep passengers on board for most meals and entertainment. 82% of passengers discretionary spending is spent on board the cruise ships.⁶⁴ Furthermore, island tours and experiences are often pre-booked onboard with foreign tour ownership versus local ownership. The cruise lines and shore excursion management company charge significantly more than what is paid to the local company providing the service.⁶⁵ Lastly, the cruise ship industry does not have a significant impact on employment. While over 50% of worldwide cruise arrivals are in the Caribbean only 7% of cruise employees are Caribbean nationals.⁶⁶

With income from cruise ships low, one way that governments bring in income is collecting a head tax on each passenger on board. In the 1980's and 1990's there was a significant discrepancy between the head tax collected between Caribbean countries. When a country tried to raise the tax, the cruise industry would pull out and move to another island. The

English-speaking islands attempted to band together in the early 1990's to create a minimum head tax for the region but were defeated by the cruise industry with threats to abandon islands that approved the tax. The cruise lines are able to move their ships when they are unhappy and they do so.

To remain competitive, islands must keep up with the wishes and demands of the cruise industry. Thus, money is often spent on creating and improving port facilities, but primarily through international loans. For example, St. Kitts & Nevis has strategically worked to increase their cruise arrivals. In 1994, they received a 16.25-million-dollar loan from the Bank of Nova Scotia to build a new cruise ship berth. It opened in 2002 after being rebuilt twice after hurricane demolition.⁶⁷ St. Kitts & Nevis has increased its' cruise tourism sector by 400% in the last six years and has worked strategically to increase money spent on land. It has increased duty free shopping and doubled its land tour offerings with rainforest, off road, beach and scenic tours that include a railway tour. The tours move cruise passengers through the island with the hopes of them spending more onshore. In the past six years, cruise passengers have doubled their onshore spending to an average of \$100 per person.⁶⁸ 5.9% of their GDP comes from the cruise tourism, the highest in the region. In 2011 St. Kitts & Nevis has the second highest debt to GDP ratio in the world at 200%, but by 2014 due to debt restructuring, debt/land swaps, and an increase in tourism receipts their debt to GDP ratio lowered to 80%.⁶⁹

Table 5. Caribbean Islands' Cruise Ship Dependency, 2013 (Source: Skift⁷⁰)

Nation	Total cruise tourism expenditures (\$Millions)	Total employment	Total employee wage income (\$Millions)	GDP (\$Millions)	% GDP from cruise tourism
1. St. Kitts and Nevis	44	756	5.9	749	5.9%
2. Antigua and Barbuda	48.3	1315	11.9	1,176	4.1%
3. Belize	58.6	1781	17.7	1,448	4.0%
4. St. Lucia	45.7	1203	9.3	1,186	3.9%
5. Bahamas	246.1	6219	100.4	8,149	3.0%
6. Dominica	14.2	405	3	480	3.0%
7. Grenada	21.7	581	3.9	789	2.8%

Nation	Total cruise tourism expenditures (\$Millions)	Total employment	Total employee wage income (\$Millions)	GDP (\$Millions)	% GDP from cruise tourism
8. Barbados	53.6	1665	17.2	3,685	1.5%
9. St. Vincent and the Grenadines	6.8	159	1.5	713	1.0%
10. Jamaica	101.5	3865	22.6	14,840	0.7%
11. Trinidad and Tobago	2.9	143	1.6	23,990	0.01%

1.1.5 Leakage and Linkages in Tourism

Leakage: loss of tourism revenue to other countries' economies.

Linkages: connections between the local economy and tourism industry that keeps revenue inside the country or region.

Leakage occurs when the local economy cannot provide reliable, competitively priced supply, comparable quality of the required product, or service that the market demands (Figure 8).⁷¹ While tourism has been promoted as a way to economically benefit developing countries and indigenous communities, tourism often has high leakage when ties between the destination community's industries and the tourism industry are weak.

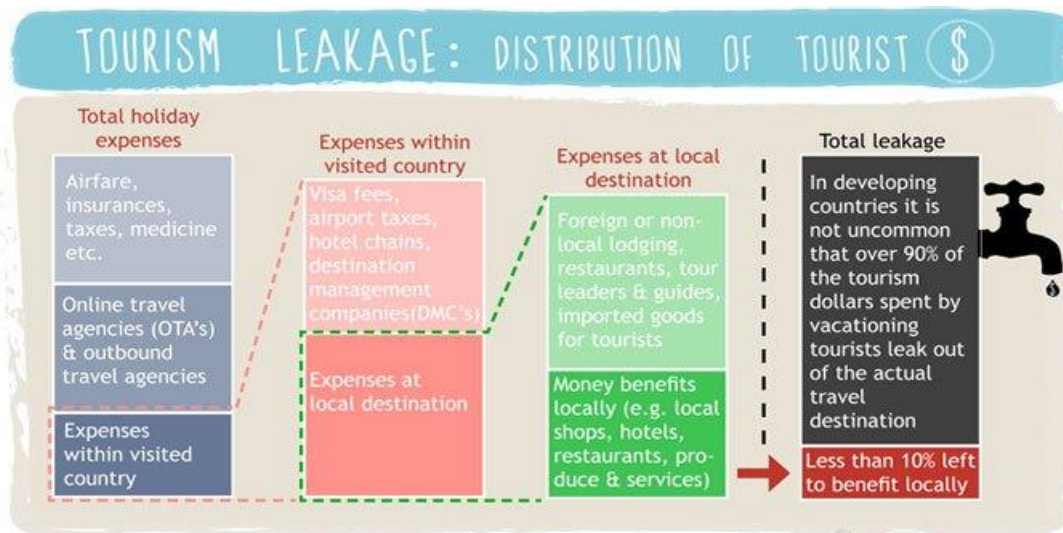


Figure 7. Tourism Leakage (Source: Beachmeter.com⁷²)

Leakage occurs in every tourism region in the world, but the Caribbean tourism industry leakage rate has been estimated to be higher than most regions at 80%.⁷³ Leakage happens both internally and externally. Internal leakage occurs when tourists purchase goods and services in destination country, but the goods are imported from outside the country. External leakage includes purchases made prior to visiting the destination country such as foreign airline tickets, tour operator profits, and travel agent commissions.

A United Nations report found significant leakage with: “a) import of materials and equipment for construction; b) consumer goods imports, especially food and drink; c) foreign investor repatriation of profits; d) overseas promotional expenditures; e) amortization of external debt incurred in the development of hotels and resorts”.⁷⁴

1.1.5.1 Import Leakage

Import leakage occurs when tourists demand a specific quality or standard of equipment, food, and drink that the destination country cannot supply. These goods are then imported for consumption. The import leakage varies from country to country, but nine Caribbean countries having import rates between 45% and 90%.⁷⁵ The average import leakage for developing countries is between 40% and 50% for small economies and around 10% to 20% for advanced economies.⁷⁶ Up-to-date and valid statistics are hard to come by as leakage is difficult to quantify. The cruise ship industry and all-inclusive resorts are pointed to as particularly high in leakage with little the local community can do to profit from these modes of tourism.⁷⁷

Small island nations are more susceptible to leakage due to their small footprint and difficulty in manufacturing what is required for the tourism industry. Food and drink is an area of high leakage in the Caribbean. Imported food dominates the hotel industry in the Caribbean. The

Caribbean still operates with a one crop dependency on bananas that are grown primarily for export with little food grown for internal use. In 2014, the Caribbean imported 4.75 billion USD worth of food.⁷⁸ Agriculture is an area that is considered important for linkages to be created in the tourism industry. In Last Resorts, Patullo points out that while there are some dry islands that are not compatible with increased agriculture, many of the island nations have a long history of agricultural production and have fertile land. However, hotels find it easier to import than to search for local suppliers that can produce the quality and amount needed.⁷⁹

The internal leakage problem has been exacerbated by the growth of all-inclusive resorts and cruise tourism. In these models of mass tourism, visitors prepay for virtually everything in their trip, including lodging, meals, and activities. Once they arrive, there is little incentive to venture off the typically foreign-owned resort grounds to patronize local restaurants, shops, or tour services, meaning the local economy receives substantially less from such tourist activities as compared to other tourism models.

Some regions of the Caribbean have been successful in creating linkages, or connections between the local economy and the tourism industry that keep revenue inside the country, with links to the agricultural, fishery, renewable energy, and ecotourism sectors. Jamaica, with a large and more diverse economy than many Caribbean nations, has been one exception to the rule and has recently invested in creating linkages. In 2013, Jamaica established a Tourism Linkages Hub with the goal of improving linkages with the tourism industry. One successful initiative has been the Agro-Tourism Farmer's market launched in Negril in 2013 where farmers brought their produce to sell to hoteliers and tourists. The first market led to farmers reaping \$14 million in profits through the connections they made.⁸⁰ Connections are also being made in the manufacturing sector as well through the creation of networking events and conferences. Carolyn McDonald-Riley, the head of the Tourism Linkages Hub, stated in an article in JAMPRO that, "Over 50 hotels and close to 100 businesses that offer products and services, such as chemicals and cleaning products, cosmetic and spa products, toiletries and guest amenities, craft, furniture, bedding, food and beverage, meat, uniform, printing and packaging, fresh produce, construction, training, ICT, electrical and entertainment, participated in the networking sessions".⁸¹ Additionally, Jamaica is home to the only Caribbean based privately owned resort business, Sandals. They have worked extensively on creating agricultural linkages for their resort. In 1996, they created the Sandals Farmer Programme to increase local use of agriculture in their resorts. While there were initial problems they were able to increase their local agricultural purchases from \$60,000 to 3.3 million in three years' time.⁸²

In the past, Caribbean governments have focused on maximizing the number of tourist arrivals and considered increasing numbers as the performance indicator of success. Unfortunately, financially it hasn't necessarily played out that way. Recently more discussion and research has focused on reducing leakages and increasing linkages for economic gain.

1.1.5.2 Export Leakage

As discussed previously, the Caribbean tourism industry was primarily built through foreign investment. Export leakage occurs when multinational or foreign owned corporations who have financed the resorts and hotels repatriate their earnings back to their country of origin. Besides providing a definition of the term, export leakage is less discussed in the research on tourism and leakages.

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1.2 Cultural Displacement

The socio-cultural impacts of tourism are the effects on the host community of both their direct and indirect relations with tourists and their interactions with the tourism industry. Once an area becomes a tourism product many issues often arise. The tourism-dependent Caribbean has seen cultural changes, cultural degradation, and societal issues emerge. While some cultural impacts have been well-studied and measured (e.g., drug and human trafficking, crime, etc.), there is in comparison little statistical data measuring cultural change and degradation. On these topics we present a range of qualitative examples and discussions of the problems.

The cultures of the islands and its people have been shaped by its unique history. European colonists, the genocide of the indigenous people, African slavery, and the indentured servantry of Asian, Indian, and Portuguese people have created a merging of many different cultures over time. The European colonists imposed their own cultural structures of politics, laws, and societal values, but the majorities of the inhabitants were not European and brought their own cultural beliefs and values. Even slaves in the Caribbean cannot be viewed as a homogenous group as African slaves were brought in from different regions and cultures themselves. Thus, the Caribbean culture is described as a Creole society where many cultural practices have been integrated to create a new culture with its own blending of language, religion, art, music, and food.

While the different islands have each developed a distinctive culture, the Caribbean countries have struggled to define and market themselves as unique cultural destinations. Consequently, they have fallen prey to tourists and tourism marketing that have created their own narrow, homogenized view of Caribbean culture. Tourists have been marketed a certain type of “paradise” with the bland image of pristine beaches, turquoise water, and “island” music playing in the background with little education or understanding of the unique cultural features of the islands.

With the majority of the Caribbean tourism industry engaged in cruise tourism and all-inclusive resorts, often the only representation of the culture tourists receive is the entertainment offered at their resort or at port of call where culture is a presentation or a show rather than something they experience naturally and organically throughout their stay. Additionally, often the only interactions they have with the citizens of the island are those who serve their needs at their resort. Both lead to a much-skewed idea of the host country’s culture and its citizens. The sun-sand-and sea model of tourism and the lack of natural interactions with the host community can have significant social impacts on a community.

1.2.1 Cultural Change and Degradation

1.2.1.1 Resentment of the Tourism Industry and Tourists

Though tourism has undoubtedly generated profits and benefits to the Caribbean nations, some have argued that it can be seen as a continuation of colonialism and economic dependence.^{83,84} With many Caribbean nations economically dependent on tourism, there is a continuation of an unfair balance of power with the Caribbean host nation and its citizens focused on fulfilling the needs of the primarily Western tourists.

While tourism can bring much needed employment to a region, it is often not dispersed throughout the community. It has been said that every new hotel room creates one new job.⁸⁵ Unfortunately, many of the tourism industry jobs for local citizens are low wage and unskilled jobs, such as waiters, housekeepers, and gardeners. Much of this work is seasonal and does not provide a stable income for direct employees in the tourism industry. Furthermore, all-inclusive resort visitors are often reminded that tips are unnecessary further reducing the income of the low wage employees. Economic differences are incredibly pronounced for resort employees. The variety and quality of food offered at all-inclusive resorts is quite different from the food the local employees have access to or can afford to purchase. Thus, low wage employees struggle to earn enough money to live while working at grand resorts with the expectation that they always be pleasant and accommodating to the tourists. Resentment is unsurprising in this set up.

Moreover, resorts often financially benefit people outside the community rather than local people who are not considered to have the skill set required for the higher-level positions at the resorts. Skilled and managerial jobs are often staffed by expatriates and nationals who relocate into the community for their job, subsequently changing the makeup of the host community.

Resentment also builds when tourists are seen as disrespectful of the local customs. In St. Kitts, a conservative community where it is unacceptable to dress in swimwear in public, the locals can be resentful of the disregard for their values when tourists take to the supermarkets without shirts or in bikinis and shorts.⁸⁶

1.2.1.2 Strangers in Their Own Land

As the tourism sector has taken priority in the Caribbean economy, the task of keeping the tourists happy and continuing to come can often take precedent over the wants and rights of the citizens of the country. For example, many of the large and primarily foreign owned resorts are built on the best beaches. While the resorts do not technically own the beach as everything below the high-water mark is public property, they can make it virtually impossible for locals to access by enforcing tariffs to cross through the resorts private property to the public beach.

Access prices can range from \$50 to \$200 for a day pass at hotels and resorts with all-inclusive resorts typically having the highest pass rate making access out of reach for locals.⁸⁷

The Hilton Tobago is a 198-room complex on a 20-acre site alongside a Nicklaus-designed 18-hole golf course and was opened in November 2000.⁸⁸ Local residents were promised jobs and increased spending in the community. Instead, Hilton International imported the majority of its professional workforce, with only a few low-level jobs available to residents. The resort closed off a prime beach area to local residents and, to make matters worse, was opened as an all-inclusive resort. Consequently, local restaurants and other merchants saw little revenue from guests. In protest, local residents began killing endangered Leatherback sea turtles, claiming that this would prevent the tourists from enjoying them.⁸⁹

1.2.1.3 Cost of Living Impact

When a community becomes a popular tourist destination building prices, land, and residential and commercial real estate prices can increase rapidly. In the Dominican Republic the residential property market has experienced inflation as the foreign property buyer community has increased. Expats, retirees, and people purchasing vacation homes have driven prices up considerably. In one north coast city, Puerto Plata, the average apartment price has increased 23% from 2013 to 2014.⁹⁰ The Global Property Guide survey reports that the construction is focused on the high-end market leaving a housing shortage in the low to middle income range.⁹¹

Real estate is not the only area in which cost of living increases in tourism destinations. Services and goods also experience increases also negatively affect the local community as income does not experience a related increase.⁹²

1.2.1.4 Commodification

Perceived and real homogenization of the Caribbean manifests itself as an economic problem. If there is no perceived difference in the products offered by different destinations, then Caribbean tourism becomes a commodity. With such commodification taking place, islands can no longer effectively compete on the unique attributes of their island and, instead, are forced to compete predominantly on price. This puts islands in direct competition for arrivals and must constantly lower their prices to stay competitive. This is further exacerbated by all-inclusive and cruise tourism models which further partition tourists from the authentic culture of each destination.

In commodification, local customs, religious rituals, and festivals are sanitized, presented at different times than is customary, or shortened to conform to tourist timelines and expectations in a process termed reconstructed ethnicity. As culture becomes a product that is

on display and for sale, craftspeople and artists sometimes begin to adapt or alter their product in order to create something more in line with the tourists' taste.

1.2.1.5 Culture Clashes

In a rapidly changing world with easy access to western media such as music, movies and television, tourism cannot entirely foot the blame for changing tastes. However, western values and consumerism displayed by the majority of tourists that inundate the islands can erode the cultural identity of the Caribbean people by creating a demand or desire for a different type of lifestyle. The traditional food and products can be discarded for the products imported for the tourists and the behavior of the tourists can be copied. Thus, economic leakage due to the tourism sector is multiplied through changing consumption habits of the locals with the influx of imported products on the market making leakage rates even more difficult to quantify.

Unfortunately, tourist behavior is often altered on vacation, so the copied representation is an over exaggerated version of the western consumerism society. Tourists on vacation are often spending more than they do in their typical lives and can behave very differently than they would back home, especially given temptations of all-inclusive resorts with all-inclusive alcohol. Low wage workers are surrounded by this consumerism and can sometimes copy this behavior in a sociological term deemed the demonstration effect.⁹³

1.2.2 Societal Issues, Another Side to Paradise

1.2.2.1 Drug Trafficking

The Caribbean is a principal corridor for drug trafficking from the supply markets of Central and South America to the demand markets of the United States and Europe. Many islands are involved in the process with cargo vessels, fast boats, yachts, private vessels, and numerous flights moving drugs through the area to the demand markets (Figure 8). Uninhabited islands in countries such as the Bahamas; a steady stream of yachts with little controls on arrivals in Europe; daily cruise ships with thousands of passengers on board making screening impossible; and ports where drugs are concealed in commercial cargo collectively result in an incredibly difficult job of controlling drug trafficking. Last year, 43 kilos of cocaine were seized on cruise ships with attempted smuggling by employees.⁹⁴ The International Narcotics Control Board (INCB) have highlighted violence, money laundering, and corruption as security challenges in the fight against drug trafficking.⁹⁵



Figure 8. Caribbean Drug Trafficking Routes (Source: The Economist, 2014⁹⁶)

With a crackdown on trafficking through Central America last year, drug traffickers have shifted their routes back through the Caribbean. Sixteen percent of cocaine imported to the U.S. was trafficked through the Caribbean in 2013, up from 4% in 2011.⁹⁷ Cocaine is primarily an export drug with little internal selling. Marijuana, or cannabis, is both sold internally to tourists and citizens as well as exported. Jamaica is the largest producer of cannabis in the Caribbean, but St. Vincent and the Grenadines has seen increased production as agricultural production has shifted from bananas to illegally growing the much more profitable marijuana. Patullo argues, “the Caribbean’s tourist trade provides an infrastructure in which the drug trade can flourish. The daily network of planes and cruise ships makes trafficking easy with large numbers of tourists, crews and officials constantly on the move”.⁹⁸

1.2.2.2 Gangs and Crime

International gangs are increasingly becoming entrenched in the Caribbean. As drug shipments multiply more gang members begin living in the Caribbean. With more drugs come more guns and fights over territory. Most homicides in the Caribbean are gang versus gang and not directed at tourists. While homicide rates are decreasing in many parts of the world, the Caribbean homicide rates have been on the rise for the past twelve years with the exception of Barbados and Suriname.⁹⁹ In 2012, The First Caribbean Human Development Report found gang related murders in Jamaica and Trinidad and Tobago are “substantial and increasing” with almost a doubling of homicides between 2006 and 2009.¹⁰⁰ In 2011, 80% of confiscated guns in Jamaica came from the United States.¹⁰¹

1.2.2.3 Street Crime

With wealthy tourists and high poverty levels, crimes such as pick pocketing, mugging and car theft are prevalent in the Caribbean and are commonly crimes of opportunity. An influx of tourists with valuables left in hotels, cars, and money in wallets attracts criminals to the community. Thus, beyond the guarded gates of the all-inclusive resorts, street crime, poverty, and violence beset the Caribbean leaving the citizens of the country to live in a much different world than the island visitors. The Dominican Republic, one of the poorest nations in the Caribbean with 41% of its population living below the poverty line, is the most popular destination for visitors in the Caribbean and is becoming an increasingly important route in the drug trafficking chain.¹⁰² Unfortunately, there are no easy answers as the culprit of rising poverty isn't the sole indicator of rising crime rates. Trinidad & Tobago is one of the most prosperous countries in the Caribbean. However, over 100 criminal gangs are identified there, and the U.S. Department of State has labeled crime there as critical.¹⁰³

1.2.2.4 Crime Impacts on Tourism

Tourism is impacted by concerns of violence. The Caribbean Community (CARICOM) estimates that between 2.8% and 4% of GDP is spent on policing, youth incarceration, and a loss of tourism revenue.¹⁰⁴ Furthermore, they project that for every one percent reduction in youth crime in Trinidad & Tobago, tourism revenue would increase by \$35 million.¹⁰⁵ Cruise ships will often drop a location if there is an uptick in violence.

1.2.2.5 Prostitution and Sex Trafficking

Prostitution existed prior to the onset of mass tourism, but the remarkable increase in prostitution is directly related to the demand created by mass tourism.¹⁰⁶ With high levels of poverty in Caribbean countries, hustling and prostitution have become intertwined with the tourism industry. Male sex workers, referred to as "beach boys" are a common occurrence in many Caribbean countries. Catering primarily to middle aged women from Europe and North America, they approach unattached women and create a "relationship" in which sex is traded for money and gifts. Unlike typical prostitution these relationships extend past the sexual encounter and can extend beyond the vacation with the women continuing to provide financial benefits.¹⁰⁷

The involvement of children in the sex industry is not uncommon. While adult prostitution is legal in the Dominican Republic, child prostitution has also increased with the increase in tourism with North Americans and Europeans specifically vacationing there for this reason.¹⁰⁸ Jamaica, Barbados, and the Bahamas have been placed on the United Nations Human Trafficking Watchlist as countries that are not doing enough to stem the tide of human and sex trafficking. While tourism is not the cause of sexual exploitation of children and young women,

it has been found that the increase of sexual exploitation has paralleled the growth of tourism in many regions of the world.¹⁰⁹

1.2.2.6 Child Labor

It is estimated that 73 million children between the ages of 10 and 14 are employed worldwide.¹¹⁰ General Michel Hansenne of the International Labour Organization explains, "Today's child worker will be tomorrow's uneducated and untrained adult, forever trapped in grinding poverty. No effort should be spared to break that vicious circle".¹¹¹ An estimated 10% - 15% of the tourism workforce or 13-19 million children and young people under the age of 18 are employed globally.¹¹²

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1.3 Tourism and Environmental Degradation

The predominant sun, sand, and sea tourism model of the Caribbean depends on a healthy natural environment to continually attract tourists, but tourism puts enormous pressures on the environment. As tourism has become an important economic force for the region, the islands have undergone massive alterations to the natural environment all within one generation, with criticisms and warnings along the way about the long term environmental impacts. Unfortunately, political leaders have often chosen short term financial or political gain over environmental protection. Under the mass tourism model, the goal has often been to bring in more tourists and build more resorts without regard for the environmental carrying capacity of small island nations with little room for error.

The ways in which tourism negatively impacts the environment are complex and interwoven. Pattullo in Last Resorts explains it in this way:

“...a hotel cuts down coastal trees to improve the view from its rooms; this accelerates coastal erosion and sand loss. A jetty is then built for a new dive shop and even more sand is lost because sand from the newly shaped beach is washed onto the coral reef. The result is two-fold: the sandy beach has become smaller and the marine environment has been spoiled. And both land and sea are more exposed to damage from hurricanes. What originally drew the tourists no longer exists in its pristine condition.”¹¹³

While acknowledging the interconnected and often cascading environmental impacts of tourism, for simplicity sake this section is organized as follows:

- Brief overview of biodiversity in the Caribbean Islands
- Environmental impacts of tourism facility development
- Pollution
- Resource Use
- Environmental impacts from tourism activities

1.3.1 Caribbean Biodiversity

The Caribbean Islands are considered an important biodiversity hotspot with more than four million km² of ocean and approximately 230,000 km² of land. There are approximately 13,000 plant species with 205 plant genera endemic to single islands, and one plant family, Goetziaceae, only found in the Caribbean.¹¹⁴ Cuba alone has half of the region’s endemic plants and thus is a conservation priority.¹¹⁵ The Caribbean has an incredibly high endemism rate particularly of reptiles and amphibians (Table 6). Endemic species of the Caribbean represent 2.6% of the world’s 300,000 plant species and 3.5% of 27,298 vertebrate species globally. The Caribbean islands currently have 755 plant and vertebrate species at risk of extinction.¹¹⁶ A 2011 report by Island Conservation found 121 critically endangered and 111 endangered

mammals, reptiles, amphibians and birds.¹¹⁷ Thirteen bird species have already become extinct.¹¹⁸

Table 6. Number of Species and Endemic Species in the Caribbean (Source: The Encyclopedia of Earth¹¹⁹)

Taxonomic Group	Species	Endemic Species	Percent Endemism
Plants	13,000	6,550	50.4
Mammals	89	41	46.1
Birds	604	163	27.0
Reptiles	502	469	93.4
Amphibians	170	170	100.0
Freshwater Fishes	161	65	40.4

The Caribbean region has seven percent of the world's total coral reef ecosystems with 26,000 km of reef containing 25 coral genera, 117 sponges, 633 mollusks, more than 1400 fishes, 76 sharks, 45 shrimps, and 23 seabirds species.¹²⁰

1.3.2 Environmental Impacts of Tourism Facility Development

The rapid expansion of the tourism facilities and infrastructure required for mass tourism, including large scale resorts, airports, marinas, roads, and golf courses have led to adverse environmental impacts. An IUCN report (2011) states, "Landscape modification due to tourism development is believed to be one of the main contemporary drivers of habitat loss in the Caribbean".¹²¹ Roads are constructed linking remote tourism centers to airport facilities, airports have been built on drained and infilled wetland, and most resort construction in the Caribbean is focused at or near fragile coastal and marine ecosystems. A report by the Critical Ecosystem Partnership Fund found that second to invasive species, residential and commercial development is considered the top threat to biodiversity in the Caribbean.¹²²

1.3.2.1 Seagrass and Mangrove Destruction

The coastal regions have some of the most fragile and important ecosystems on the islands. Approximately 70% of the population in the Caribbean currently lives along the coast and tourism in the region is overwhelmingly based near the sea.¹²³ Shorelines have been intensely developed with trees, mangroves, and seagrasses removed to create the perfect paradise environment. Seagrasses that provide food and habitat for marine organisms, nutrient

filtration, carbon sequestration, sediment trapping for water clarity and seabed stabilization are often cleared from resort beach areas for the “comfort” of the guests.

Globally, 20% of mangrove cover was lost between 1980 and 2005.¹²⁴ In the Caribbean, 42% of mangroves have been lost in the last 25 years.¹²⁵ Mangroves are found on almost all Caribbean islands in varying amounts and provide important environmental services including coastal protection, biological diversity conservation, habitat, spawning grounds, and siltation protection.¹²⁶ While providing all of these environmental services to a region, mangroves are often considered mosquito infested swamps that obstruct views and access to the beach area and are cleared for resorts, golf courses, and cruise ship ports. The Food and Agriculture (FAO) 2007 report states, “The main cause of mangrove degradation and loss in the Caribbean islands has been the rapid and often unsustainable development of tourism industries – on which their economies largely depend – and of the related infrastructure (marinas, hotels and harbours).”¹²⁷ It is estimated that mangroves around the Caribbean Sea have experienced a 1% decrease per year since 1980.¹²⁸

Education on the importance of mangroves has led to some conservation victories. In the Bahamas, the annual rate of loss of 3500 hectares in the 1980’s decreased to “no significant change” by 2005. Cuba has the seventh largest area of mangroves in the world and actually increased mangrove hectares between 1980 and 2005.¹²⁹

Current issues still remain for mangrove protection in the Caribbean when at odds with development needs. In 2014, after being elected into office with the promise of making Antigua and Barbuda an economic powerhouse, Prime Minister Browne quickly approved private investment projects. Beijing's Yida Group is overseeing the country’s largest free trade zone with “an off-shore financial centre, a five-star luxury resort, internationally branded villa communities, a casino and gaming complex, a multi-purpose conference centre, a 27-hole golf course, a marina and landing facilities, commercial, retail, sports and other auxiliary facilities.”¹³⁰ Environmental organizations criticize the project’s illegal destruction of mangroves in protected areas with Prime Minister Browne responding, “some fauna may have to be destroyed” as government proceeds with various developments. “My government does not need to be schooled in the protection of the environment.”¹³¹ Financial gain wins again over environmental protection even with protective laws in place.

1.3.2.2 Coral Reef Ecosystems

Coral reefs are among the most diverse and valuable ecosystems on Earth, directly supporting more species per unit area than any other marine environment, including about 4,000 species of fish, 800 species of hard corals and hundreds of other species. Scientists estimate that there may be another 1-8 million undiscovered species of organisms living in and around reefs.^{132,133}

Many drugs are now being developed from coral reef animals and plants as possible cures for cancer, arthritis, human bacterial infections, viruses, and other diseases.

Coral reefs provide economic and environmental services to millions of people around the world, estimated at more than \$375 billion each year, a remarkable figure considering that coral reefs cover less than one percent of the planet.¹³⁴

Coral reefs contribute to local economies through tourism (scuba diving, snorkeling fishing, resorts, restaurants, etc.) providing millions of jobs and billions to the economy.

The commercial value of U.S. fisheries from coral reefs annually has been estimated in excess of \$100 million,¹³⁵ equaled by the annual value of reef-dependent recreational fisheries. In developing countries, coral reefs are especially important, providing roughly 25 percent of the total fish catch, providing food resources for tens of millions of people.¹³⁶

Coral reefs buffer adjacent shorelines from wave action and prevent erosion, property damage and loss of life. Reefs also protect the highly productive wetlands along the coast, as well as ports and harbors and the economies they support. Globally, half a billion people are estimated to live within 100 kilometers of a coral reef and benefit from its production and protection.¹³⁷ A study by World Resources Institute showed that in Belize the value of coral reefs and mangroves to shoreline protection exceeded the value of fishing and tourism combined.¹³⁸

Tragically, the past 50 years have seen unprecedented environmental degradation in the Caribbean. A major report documents an average decline of coral cover in the Caribbean of more than 50 percent since 1970.¹³⁹

Human-caused, or anthropogenic activities are major threats to coral reefs. The challenge is that coral reefs are sensitive to a very broad range of human activities, stemming from both local and global factors.¹⁴⁰ Among local threats, one of the most significant is pollution. Land-based runoff and release of pollutants result from coastal development, dredging, deforestation, agricultural activities and sewage discharge.¹⁴¹ Sediment from coastline erosion (following construction and/or deforestation) can smother coral reefs. Pollutants, such as pesticides, can have detrimental impacts on corals, while nutrient pollution – commonly originating from fertilizers and livestock – can fuel algae growth. Several species of macroalgae can grow atop coral reefs and smother them.¹⁴² Corals are also susceptible to a range of diseases, some of which may originate in sewage discharge.

Overfishing is cited as a major cause of coral reef degradation,¹⁴³ and can impact coral reef ecosystems in a number of ways. Most critical, removing herbivorous fish from the reef can allow algae to grow unchecked across the reef, eventually killing the reef. Removal of top

predators, such as sharks, can upset the population balance on the reef, leading to fewer herbivorous fish.

In a tourism context, coral reefs are vulnerable to human impacts, including the physical breakage of corals, removal of protective mucosa by humans touching corals, etc. Anchoring of vessels can physically damage corals as can groundings of vessels. In many areas corals are collected and sold to tourists as jewelry or souvenirs.

At a global level, climate change has resulted in warming oceans. When stressed – commonly (though not exclusively) by warm water, coral bleaching can result where corals will expel the symbiotic algae (zooxanthellae) living in their tissues causing the coral to turn completely white. Corals can survive a bleaching event, but they are under more stress and are subject to mortality. In 2005, the U.S. lost half of its coral reefs in the Caribbean in one year due to a massive bleaching event due to thermal stress.¹⁴⁴ Unprecedented mass bleaching events in 2016 and 2017 are believed to have killed half the corals in Australia's Great Barrier Reef.¹⁴⁵

Also, at a global level, corals are vulnerable to the effects of ocean acidification. The oceans absorb roughly half of the carbon dioxide emitted into the atmosphere. Carbon dioxide dissolves in seawater, forming carbonic acid. With humans adding more and more carbon dioxide to the atmosphere due to fossil fuel emissions, the oceans are becoming increasingly acidic. It is estimate that the oceans' acidity has increased by 25 percent over the past two centuries.¹⁴⁶ Ocean acidification represents a grave threat to many organisms in the sea that have calcium carbonate shells and structures, including corals.

1.3.2.3 Sand Mining and Manmade Structures

A healthy beach is not only essential in the sun, sand, and sea model of tourism, but also provides important ecosystem services including a source of raw materials, coastal protection, erosion control, water catchment and purification, maintenance of wildlife, and carbon sequestration.¹⁴⁷

Sand and gravel are the largest volume of solid material that is mined globally, however little documentation and data exists on amounts mined, making environmental assessments challenging.

Sand mining environmental impacts:

- Destruction of natural beaches and ecosystems
- Habitat loss (turtles, shorebirds)
- Reduced protection from hurricanes, floods, and climate change
- Salinization of freshwater sources

Sand is used in construction to create cement with a ton of cement requiring six to seven times more sand and gravel.¹⁴⁸ In the Caribbean, sand is mined both legally onshore and offshore and illegally onshore for construction purposes. A 2008 news report states that illegal sand mining began in the Caribbean in the 1970's on a small scale, with increasing thefts as residential construction shifted from wood to concrete and with an increase in building due to the tourism boom.¹⁴⁹

Recent significant impacts in the region include:

- Grenada's Cariccaou Island's beach decreasing three linear feet per year.¹⁵⁰
- Almost two-thirds of the sand dunes in Tortola and Nevis have been decimated.¹⁵¹
- In 1994, it was determined that sand mining in St. Vincent had caused erosion, flooding and loss of habitat and it was determined that sand should be purchased from Guyana for construction purposes. Announcement of the regulation (without an effective date) resulted in a stockpiling of sand in a two-month period that was 2.5 times the annual amount of sand removal leading to serious erosion.¹⁵²

Along with sand mining, dredging, climate change, and naturally occurring storms, the creation of unnatural protection methods is one of the factors responsible for beach erosion. Beaches are naturally changing habitats with accretion and erosion of sand over time. Waves naturally bring sand to the beach, but when buildings such as resorts are built too close to the beach and subsequent seawalls, breakwaters, groins and jetties are built to protect investment, the natural replenishment cycle is broken.

1.3.2.4 Port Construction

The competition for the cruise ship industry creates incentives for building bigger and better ports to serve them. The dredging required to create these ports leads to reef destruction and a loss of income to dive and snorkeling operators in the area. The environmental damage for the construction of new ports has mostly been overlooked to keep and increase cruise tourism. For example, a Travel Pulse news article (2015) reported the Grand Cayman Islands government has proposed the creation of a \$150 million new port facility that would allow four cruise ships to dock at a time. Currently, the cruise ships anchor offshore and the guests are ferried to shore. An environmental impact statement reported that 15 acres of reef would be destroyed with another 15 to 20 being negatively affected and said the construction would, "have significant negative impacts on the marine ecology within George Town harbor, in particular the coral reefs and associated habitat surrounding the project site."¹⁵³ The report also acknowledged the importance of maintaining cruise business in the Cayman Islands; a country with 85% of its tourism is through cruise tourism. The government has announced that they will move forward in building the port along with partner Carnival Corporation.¹⁵⁴

1.3.2.5 Deforestation

The physical environment of the Caribbean islands has undergone drastic changes beginning long ago with inland deforestation during the sugar plantation period. Large swaths of forest were cleared for large scale plantations. In Antigua, almost 92% of the land was used for sugarcane for nearly 300 years.¹⁵⁵ Native forests in the Caribbean cleared for agriculture led to erosion, loss of land fertility, increased drought, and a change in the nature of land resources. Recent forest statistic reported by the Food and Agricultural Organization of the UN (FAO) show a stabilization of deforestation rates with a .75% increase in forested areas in the Caribbean between 2000 and 2010.¹⁵⁶ The report states that much of this increase in forested land is natural expansion of forest due to abandonment of agricultural land. Table 7 provides a more detailed country by country view of forest cover. Even with only 15% of their forest intact, Cuba has the largest remaining tract of forest in the Caribbean.¹⁵⁷

Table 7. Caribbean Islands: change in forest cover, 2001-2010 [km²] (Source: Butler at Mongobay.com¹⁵⁸)

Country	Gross loss (km²)	Gross gain (km²)	Net Change (km²)
Aruba	0	0	0
Bahamas	-61	70	9
Cayman Islands	-11	2	-9
Cuba	-773	3308	2534
Dominica	-2	16	13
Dominican Republic	-774	749	-24
Grenada	-33	0	-33
Guadeloupe	-10	21	10
Haiti	-299	447	147
Jamaica	-393	95	-299
Martinique	-33	0	-33
Montserrat	0	6	6
Netherland	-3	2	-1

Country	Gross loss (km ²)	Gross gain (km ²)	Net Change (km ²)
Antilles			
Puerto Rico	-160	326	166
Saint Kitts and Nevis	0	15	15
Saint Lucia	0	19	19
Saint Vincent	-1	0	-1
Trinidad and Tobago	-215	12	-203
Turks and Caicos	-18	0	-18
U.S. Virgin Islands	-1	4	3

While it is known that forested land is cleared to make way for the infrastructure of tourism, region wide data on deforestation rates related specifically to tourism development is unavailable.

1.3.3 3.2 Pollution

1.3.3.1 Sewage and Wastewater

Sewage is the part of wastewater that is contaminated with feces or urine, but the term is often used interchangeably with the term wastewater. Sewage is considered one of the most significant pollutants of coastal waters in the Caribbean.¹⁵⁹ Although there is limited quality data on the amount and treatment practices of wastewater in the Caribbean, it is suggested that approximately 85% of wastewater entering the Caribbean Sea is untreated.¹⁶⁰ Wastewater facilities are either inadequate or absent in many Caribbean countries with many residents not having access to proper wastewater treatment. In the Dominican Republic only 12% of the population was connected to wastewater treatment in 2005. In Guyana in 2009, 0% of the population was connected to wastewater treatment and only 7.2% was connected to wastewater collection.¹⁶¹ In Cuba more than 70% of domestic wastewater is untreated or receives only primary treatments before being discharged into rivers, bays and other coastal waters.¹⁶²

The inadequate number of sewage treatment plants in operation, combined with poor operating conditions of available treatment plants, and the practice of discharging mostly untreated wastewater greatly impact the quality of coastal waters. As coastal regions continue to develop and become more populated, the amounts of inadequately treated wastewater being discharged into coastal waters increases.

The discharge of sewage causes:

- Public health problems from contact with polluted waters or from consumption of contaminated fish or shellfish
- Nutrient enrichment of coastal waters and eutrophication
- Increased algal and bacterial growth
- Degradation of seagrass and coral reef ecosystems
- Decreased fisheries production and fish kills
- Nutrient enrichment of surface and groundwater
- Deterioration of bathing and drinking water quality
- Outbreaks of disease
- Increased turbidity and reduced salinity in coastal waters close to outfall pipes and drains
- Deterioration of the aesthetic quality of beaches and wetlands

Due to lacking the necessary municipal sewerage systems, hotels are placed in the position of operating their own treatment plants. Inadequate standards, lack of monitoring, and regulations have led to ineffective treatment. Approximately 75% of wastewater treatment operated by hotels and resorts in the Caribbean do not comply with effluent discharge guidelines.¹⁶³ Many hotels are not on central sewage systems, instead disposing of their sewage through sub surface means.

Cruise ships and recreational vessels are an additional source of sewage within the region. It is estimated that the cruise ship industry generates 1 billion gallons of sewage each year.¹⁶⁴ A 3,000 passenger cruise ship on a one-week cruise has been estimated to generate 210,000 gallons of sewage and 1 million gallons of graywater (wastewater from sinks, showers, and laundries).¹⁶⁵ Cruise ships sewage treatment technology has greatly improved with the most advanced sewage treatment (AWTS), but they can still legally use the 35 year old technology Marine Sanitation Devices (MSD). Forty percent of cruise ships still use the old technology.¹⁶⁶ Most major cruise lines are registered in countries other than the U.S. such as Panama and

Liberia to avoid tax, labor, health, safety, and environmental regulations. They are governed by their flag of origins laws and environmental regulations.

Cruise ship waste, along with other vessels, is regulated under the International Convention for the Prevention of Marine Pollution, MARPOL 73/78. In 2011, these regulations were deemed insufficient to protect environmentally sensitive, high traffic areas and the wider Caribbean was designated as a Special Area under MARPOL allowing for stricter regulations. While these new special area regulations are in place, Caribbean governments often lack the resources for implementation and enforcement. Cruise ships are required to dispose of waste twelve nautical miles from shore, but algae can be present in shallow waters beyond this leading to the creation of algal blooms. Coastal cargo vessels and recreational boats do not have holding tanks and are likely to discharge their waste waters in marinas and near shore coastal areas due to the lack of port reception facilities for sewage waste in most countries in the region.¹⁶⁷

1.3.3.2 Solid Waste

Solid waste from tourism is created by waste generated through the construction of tourism facilities, the running of the facilities that support tourism, and the waste generated by the tourists. It is estimated that land based tourists generate twice as much solid waste per capita of local residents.¹⁶⁸ Proper waste management poses a challenge for most Caribbean islands due to: 1) scarcity of land available, 2) high cost of land, 3) lack of money available to invest in waste management, 4) competing priorities, 5) lack of regulation, and 6) lack of people trained to create and run the facilities.¹⁶⁹ Without proper disposal of solid waste disease, air pollution, landfill gas migration, leachate generation, and surface and groundwater pollution are significant environmental concerns. Landfills, including open dumps, are the most widely used waste disposal method in the Caribbean.¹⁷⁰ Few are properly managed with the often practiced burning of trash leading to noxious fumes and air pollution. With most of the population coastally concentrated, landfills are often situated nearby to limit the cost of hauling thus increasing the risk of coastal and marine environmental damage.

Ship generated waste accounts for approximately 80% of solid wastes in the coastal areas.¹⁷¹ The wider Caribbean region was designated a special area under MARPOL Annex V in 1991 prohibiting dumping of any inorganic waste but was not implemented and enforced until 2011 due to lack of capacity of the island ports to adequately handle garbage. Caribbean countries that are signatories of MARPOL are required to provide waste disposal facilities for cruise ships, overwhelming small islands that already have difficulty appropriately disposing of their own waste.¹⁷²

1.3.4 Resource Use

1.3.4.1 Water Usage

It has been stated that Caribbean tourists use approximately one and a half to two and a half times the amount of water per day as residents.¹⁷³ However, data is not collected nationally on the tourism sector's water use, so it is difficult to get a handle on the type of usage included in these statistics. Water is used in a myriad of ways at resorts including landscaping and gardening, pools and water features, laundry, restaurants, housekeeping, and golf courses. While agriculture is the highest sector for water use, tourism creates regional impacts for many Caribbean islands as the dominant user of water. Additionally, the peak number of visitors coincides with the dry season in the Caribbean. In Bermuda, tourist water usage is figured at 179 gallons per day.¹⁷⁴ Dwindling quantities of freshwater for drinking and agriculture is a worry for many islands. Some countries in the eastern Caribbean including Antigua, Barbuda, Barbados, and St Kitts and Nevis, are already officially listed as "water scarce".¹⁷⁵

The Caribbean has been impacted by drought conditions for the last several years. Currently, some islands have created significant restrictions on resident water usage. In August 2015 approximately 400,000 residents in Puerto Rico experienced strict water rationing with water turned off for 48 hours at a time or cycling 24 or 12 hours on and off.¹⁷⁶ However, the tourism sector was spared these restrictions in order to not lose tourists. In a news article, Martinez, a member of the Puerto Rico Hotel and Tourism Association (PRHTA) Security Committee was quoted as saying, "In spite of the drought, they [hotels] have continued providing the service and guest comfort guests expect during their stay".¹⁷⁷ In the Dominican Republic where tourism water consumption reportedly exceeds other Caribbean countries considerably only 56% of poor households are connected to water.¹⁷⁸

1.3.4.2 Energy Usage

The Caribbean has some of the world's highest prices for electricity at 30 to 40 cents per kilowatt hour (kWh). These electricity rates are approximately four times the rate paid in the United States.¹⁷⁹ Most islands generate 90 to 100% of their electricity through the burning of diesel and heavy fuel oil.¹⁸⁰ While data is not readily available on the amount of electricity used in tourism in the Caribbean, there has been a push at the hotel level to become more energy efficient to reduce such massive costs.

1.3.5 Environmental Impacts from Tourism Activities

1.3.5.1 Marine Activities

Tourism activities in the Caribbean center on the marine environment and include swimming, snorkeling, diving, sport fishing, and yachting. The fragile ecosystem sustains damage due to repeated and extensive use and tourist negligence. The Reef Resilience website states that coral breakage and damage occurs through:

- Direct contact such as walking, touching, kicking, standing, or gear contact
- Breakage or overturning of coral colonies and tissue damage from boat anchors
- Changes in marine life behavior from feeding or harassment by humans
- Water pollution
- Invasive species
- Trash and debris deposited in the marine environment¹⁸¹

The anchors of cruise ships, sports fishing vessels and yachts have caused damage to the coral. In the Barbados, 37 diving sites in a study of reef damage, 95% were damaged by boat operators.¹⁸²

1.3.5.2 Golf Course Tourism

While most tourism activities are coastal and marine based, golf course tourism has risen in popularity in the Caribbean causing environmental concerns. In general, golf courses require a lot of land (some of it created through swamp drainage), enormous amounts of water for upkeep, and use chemical fertilizers and pesticides in their maintenance. An average 18-hole golf course can use over 600,000 gallons of water a day with an average of 18 pounds of pesticides per acre per year (compared to an average of 2.7 pounds per acre per year for agriculture).¹⁸³ In 2014, there were 121 golf courses in the Caribbean excluding Belize and Costa Rica. The Dominican Republic and Puerto Rico lead in golf course tourism, with 23% and 17% respectively of the Caribbean market. St. Kitts and Nevis has three golf courses and estimates that 90% of rounds played are by tourists. Currently, there are 9 courses under development and 21 in the planning stages.¹⁸⁴

Table 8. Summary of Detrimental Impacts from Tourism (Source: UNEP ¹⁸⁵)

Causal Factor	Source	Type of Activity
Waste	<ul style="list-style-type: none"> Hotels Cruise Ships Yachts/boats Marinas Restaurants Laundries Shops Merchants/vendors 	<ul style="list-style-type: none"> Sewage disposal directly to coastal waters Sewage disposal to coastal wetlands Subsurface disposal and irrigation of green areas using sewage effluent Solid waste disposal in coastal garbage dumps Solid waste disposal in unauthorized areas Disposal of used oils in drains and sewage systems Boat/engine operation and repair Inadequate sourcing of materials (food, products, etc.)
Recreation	<ul style="list-style-type: none"> Hotels Beaches Clubs Individual operators 	<ul style="list-style-type: none"> Water sports Nightlife Noise Illumination of beach
Mechanical Action/ Physical Change	<ul style="list-style-type: none"> Hotels Beaches Marinas Piers/jetties /wharves Groins / breakwaters Airports Roads / seawalls Boats 	<ul style="list-style-type: none"> Landfilling Dredging Anchor damage and groundings Construction of facilities Beach construction Snorkeling/diving Sand mining
Resource Over-use/ Misuse	<ul style="list-style-type: none"> Construction Beach repair/ construction Craft production 	<ul style="list-style-type: none"> Over-fishing Sand mining Thatch harvesting Coral harvesting Deforestation Habitat Loss

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1.4 Tourism and Historic Preservation

At a crossroads between north and south and the old and new worlds, the island nations of the Caribbean have an extraordinarily rich and diverse history centered on colonization, migration, and slavery. They are home to the oldest non-indigenous human settlements in the Western Hemisphere. But with the exception of a few of the islands, heritage preservation in the region has been largely lacking, and many valuable buildings and monuments have been lost. In the past couple of decades, however, the benefits of heritage tourism have become increasingly clear, spurring the islands to step up. A recent poll showed that 68 percent of U.S. visitors to the Caribbean preferred sightseeing—historic sites and the countryside—to beaching and sun-seeking. Still, preserving historic sites competes with a strong desire for new construction, autos, and suburban housing, presenting an ongoing challenge.

Even as the Caribbean's legacy receives the recognition it deserves, much of it remains threatened. Natural disasters and the daunting threat of climate change, a paucity of preservation funds, an absence of legal protections and government support, and a lack of understanding of the relationship between preservation and sustainable development are the issues. In addition, there is little expertise in the field of heritage preservation, which international organizations such as UNESCO have been trying to remedy since the 1990s, organizing, among other things, workshops and courses to raise awareness and build much needed capacity. As a result, today many more sites are recognized for their cultural value, as is sustainable development as a critical goal.

Still, the record on heritage preservation varies widely island by island, and so too are the means of managing it. Government oversight ranges from strong to none at all. Even where good preservation laws exist, accountability is often spread out among too many agencies to be effective.

The differences in U.S. territories are striking: Puerto Rico was the pioneer, establishing the former slum of Old San Juan as a historic zone in 1955. The National Park Service has restored the magnificent Spanish fortifications and other monuments, historical museums abound, and Ponce and other cities have also been declared historical zones. On the other hand, while the U.S. Virgin Islands have good local and U.S. preservation laws on the books, implementation is lacking. Politics often figures into the development of historic sites.

While the old city of Santo Domingo in the Dominican Republic has been extensively restored, a recent piece in a Kingston, Jamaica, newspaper laments the situation there. "We led the world in the export banana trade from the 1870s. We've built massive industries in tourism and bauxite. We've had over 350 years of sugar. There are no historical-cultural markers for these and a lot more. There are no places to go to see...the major events which have shaped our history and culture."

Of the islands that take historic preservation seriously, Barbados has been exemplary; a Barbados National Trust, established in 1961 and modelled after the one in Great Britain, has restored nine historic sites on the island. Founded in 1628, a portion of its capital, Historic Bridgetown and its Garrison, was declared a UNESCO World Heritage site in 2011. Grenada too has created a National Trust and has restored three important forts as well as other sites.

On Antigua and Barbuda (until flattened by Hurricane Irma in 2017), historic preservation has been largely the work of private citizens. Members of the local historical society, using international funding, effectively spearheaded several successful preservation projects and have worked to convince developers of the value of incorporating historic resources into their developments.

In Cuba, the largest and historically richest Caribbean island, large-scale development does not yet exist, but the paucity of financial resources for preservation definitely does. While Caribbean islands have lost many important historic buildings and monuments through ill-considered development—providing a strong lesson for Cuba in what not to do—Cuba showed the region how a model of self-financing and sustainability could preserve and restore the Old City of Havana. The model, unique both in this Communist country and in the region, is today admired worldwide. (Historic preservation in Cuba is discussed further in Section 2.5 beginning on Page 93.)

1.5 Alternatives to Mass Tourism and Case Studies

1.5.1 Tourism Definitions

As stated previously, most tourism in the Caribbean falls under the mass tourism/sun, sand, and sea model. However, some Caribbean countries never fully implemented the mass tourism model (i.e Costa Rica, Dominica, Belize) and others are working to incorporate other tourism models into their offerings for both economic and environmental reasons.

Many tourism models exist with differing definitions, focuses, and goals. While comparing the advantages and disadvantages of the different models is out of the scope of this paper, it is important to note the common practice of *green washing*; the misleading of consumers and tourists through labeling a resort or activity inaccurately and more environmentally friendly than it actually is. For example, tourism based in a natural area is not necessarily sustainable. However, in an example of green washing the term sustainable tourism or ecotourism are often broadly and incorrectly used to promote a resort or an activity based in nature. Definitions of commonly discussed tourism models from the Responsible Travel website are provided below (Table 9).

Table 9. Responsible Travel, Tourism Model Definitions (Source: Responsible Travel¹⁸⁶)

CATEGORY	DEFINITION
Ecotourism	Responsible travel to natural areas that conserves the environment and improves the welfare of local people.
Ethical Tourism	Tourism in a destination where ethical issues are the key driver, e.g. social injustice, human rights, animal welfare, or the environment.
Geotourism	Tourism that sustains or enhances the geographical character of a place – its environment, heritage, aesthetics, culture and well-being of its residents.
Sustainable Tourism	Tourism that maximizes the benefits to local communities, minimizes negative social or environmental impacts, and helps local people conserve fragile cultures and habitats or species. Tourism that leads to the management of all resources in such a way that economic, social, and aesthetic needs can be fulfilled while maintaining cultural integrity, essential ecological processes, biological diversity, and life support systems.

1.5.1.1 Ecotourism

The United Nations World Tourism Organization (2002) provides further clarification on the category of ecotourism by stating, “ecotourism can be summarized as conservation and nature based, containing educational and interpretation features to build local and tourist awareness while minimizing the negative impact on the natural and socio-cultural environment and generating economic benefits for host communities”.¹⁸⁷

1.5.1.2 Sustainable Tourism

The United Nations World Tourism Organization (WTO) defines sustainable tourism as, “Tourism that takes full account of its current and future economic, social and environmental impacts, addressing the needs of visitors, the industry, the environment and host communities”.¹⁸⁸ They elaborate that sustainable tourism should:

- 1) Make optimal use of environmental resources that constitute a key element in tourism development, maintaining essential ecological processes and helping to conserve natural heritage and biodiversity.
- 2) Respect the socio-cultural authenticity of host communities, conserve their built and living cultural heritage and traditional values, and contribute to inter-cultural understanding and tolerance.
- 3) Ensure viable, long-term economic operations, providing socio-economic benefits to all stakeholders that are fairly distributed, including stable employment and income-earning opportunities and social services to host communities, and contributing to poverty alleviation.¹⁸⁹

1.5.1.3 Responsible Tourism

Responsible tourism provides an even more encompassing definition that takes into account cultural issues and the importance of involving the host community in the tourism decision making process. The definition put forth by the European Alliance for Responsible Tourism and Hospitality states, “Responsible tourism complies with the principles of social and economic justice and exerts full respect towards the environment and its cultures. It recognises the centrality of the local host community and its right to act as a protagonist in developing a sustainable and responsible tourism”.¹⁹⁰

1.5.1.4 Geotourism

From the National Geographic website: “Geotourism is defined as tourism that sustains or enhances the distinctive geographical character of a place—its environment, heritage, aesthetics, culture, and the well-being of its residents”.

“Geotourism is...

Environmentally responsible - committed to conserving resources and maintaining biodiversity

Culturally responsible - committed to respecting local sensibilities and building on local heritage

Synergistic - bringing together all elements of geographical character to create a travel experience that is richer than the sum of its parts and appealing to visitors with diverse interests”¹⁹¹

1.5.2 Sustainable Certification Efforts

There are a variety of different certification efforts regarding sustainability and environmental health in the tourism industry listed in the Appendix. Discussed later among specific case studies (Section 1.5.3 beginning on Page 56) are countries that have their own government-led certification programs.

1.5.3 Relevant Case Studies

This section focuses upon different ways in which governments and private corporations are trying to make tourism more environmentally, socially, and financially beneficial for the country and its citizens as well as a review of the Cancún model and the failures of the planned city/tourism destination approach.

1.5.3.1 Jamaica Case Study: RADA and Sandal Resort

Jamaica is considered a long established and mature tourism destination. Tourism has primarily been of the sun, sand, and sea mass tourism model, but Jamaica has recently been diversifying its tourism offerings and created a Master Plan for Sustainable Tourism Development in 2002.¹⁹² While tourism in Jamaica continues to have the environmental and cultural issues seen in many other Caribbean locations, they have made strides in creating linkages between agriculture and manufacturing and the tourism industry.

The Rural Agricultural Development Authority (RADA) was established in 1990 as a statutory body under the Ministry of Agriculture and Lands with the goal of achieving economic growth and stability in Jamaica through agriculture.¹⁹³ Since its inception, it has created programs to assist farmers in creating linkages with the tourism industry. In 2013, Jamaica's Ministry of Tourism and Entertainment created the Tourism Linkages Hub with their website stating the, "primary objective of the Tourism Linkages Hub is to increase the consumption of goods and services that can be competitively sourced locally."¹⁹⁴ One of the successful programs of the Tourism Linkages Hub is the The Agro-Farmer's Tourism Market developed in 2013 which brings farmer's markets with fresh produce to the resort areas of Negril each week.

<http://www.jamaicatradeandinvest.org/news/tourism-linkages-hub-reaps-success>

Recent news suggests that the focus on creating linkages with the tourism industry is already seeing success. Head of the Tourism Linkages Hub, Carolyn McDonald-Riley, states, "We have provided a livelihood for 35 farmers who otherwise, would not have been selling at a market. The first market we reported, \$14 million was exchanged, based on the Rural Agricultural Development Authority doing its calculations. The second market was \$8 million and the third, \$6.5 million. What had happened is that the farmers now had relationships with the hotels, so

they were now supplying them directly, so there was no need for them to come and buy as much produce at the market,” she explains.¹⁹⁵

Jamaica released a comprehensive Tourism Demand Study in 2016 that provides more insight into the economic importance of agricultural linkages.¹⁹⁶ An article published by The Global Travel Industry News (2016) on the results of the study reported:

- “The opportunity for trade could be as high as J\$56.7 billion annually for processed foods, J\$5.3 billion for fruits and J\$1.6 billion for vegetables.
- The estimated annual leakage in the manufacturing sector is J\$65.4 billion, which is equivalent to 33% of the estimated total annual expenditure of businesses in the sector on manufactured goods.
- Leakages in the agricultural sector are also estimated to be within the range of J\$1.6 billion – J\$5 billion, which is 8.5% - 25.5% of annual expenditure on agricultural products.
- 70% of hotels indicated that they are spending less than 10% of food expenditures on imported agricultural products.
- Based on the value of expenditure on the importation of certain items, there are excellent opportunities for increased linkages with local producers. These items include products such as bed frames and head boards, cantaloupe, chairs, iceberg lettuce, Irish potatoes, pillows, red jumbo onions, rice, sanitizers, standing lamps, sweet corn, toothpaste, and towels”.¹⁹⁷

1.5.3.2 Sandals Resorts

Sandals Resorts is the largest Caribbean owned resort company and they have worked diligently to create linkages in the agricultural realm. Sandals donates exotic vegetable seeds to the farmers and then buys most of their produce. Additionally, Sandals assists farmers in finding a market when there is oversupply to prevent dumping of the food when the hotel is unable to purchase for its own use.¹⁹⁸

The case study on their work below is taken from the Overseas Development Institute (ODI) document, Business Implementation of Pro Poor Tourism¹⁹⁹: Case Study Briefs.²⁰⁰ ODI is a UK think tank on international development and humanitarian issues.

Sandals - Success in Sourcing Local Food from Farmers

Source: Overseas Development Institute²⁰¹

The Sandals Group is a large all-inclusive resort chain with properties in Jamaica, Bahamas, St. Lucia and Antigua. With 6,000 employees, Sandals is one of the largest employers in the Caribbean. Their approach to developing agricultural supply linkages has been quite distinctive, going beyond just increasing their own demand for local products.

Sandals' Farmer Programme in Jamaica began in 1996, with the aim of developing good working relationships between farmers and hotels by improving the quality of produce, developing proper pricing arrangements, and improving communications between farmers and hotels. Thus, the initiative works across supply, demand and marketing.

Key elements of the approach include:

- A farmer extension officer, funded by Sandals, who works directly with farmers on improving production.
- Collaboration with various other organisations, particularly on agricultural support, including the Rural Agricultural Development Authority (RADA) and Continuing Education Program in Agricultural Technology (CEPAT).
- Management teams from the hotels visit farmers, holding and attending workshop days with them to discuss quality and marketing procedures. Farmers visit the hotels to see how their products are being utilised and why Sandals' specifications are important.
- A focus on improving pricing and contractual arrangements concerning volumes to be traded.

Problems have also been encountered. The initial problems for farmers were a) problems relating to production (e.g. lack of water supply; lack of packing material); and b) problems relating to sale of the produce (e.g. inconsistent supply orders; lack of communication). RADA is now playing an active part in ensuring that the communication lines are active, and the hotels are being informed two weeks before the delivery date as to what crops and volumes are available, thus guaranteeing supplies to the hotels while informing the farmers of demand in due time. In addition, a list of types, volumes and delivery prices of produce was agreed to by individual hotels and the respective farmer groups. This corresponded to a monthly supply order. Despite initial problems, progress has been made. The project began with ten farmers supplying two hotels, but now involves 80 farmers across the island. Within three years sales have risen from US\$60,000 to \$3.3 million. Farmers' income has increased and is more reliable, while hotels have gained from a wider variety of good quality local produce and cost savings. The programme is now being expanded to St Lucia and Antigua.

1.5.3.3 Cancún Case Study

As tourism began to flourish internationally in the 1960's the government of Mexico wanted to be more involved in controlling growth of this sector of their economy. Mexican President Gustavo Díaz Ordaz ordered the creation of a National Tourism Plan.²⁰² With this order the Bank of Mexico created INFRATUR, the Fund for Tourism Promotion and Infrastructure, and the newly formed organization was tasked with determining the most desirable locations for large scale tourism areas in Mexico. Rodriguez (2012) states, "The main objectives of this policy were: the generation of foreign exchange, the creation of a source of employment and, the stimulation of an economic multiplier effect within the regions".²⁰³ After an extensive review of locations within Mexico and an analysis of tourism preferences five areas were selected: Cancún, Ixtapa, Huatulco, Loreto, and Los Cabos.^{204,205}

At this time Cancún, a city in the state of Quintana Roo, was just a sliver of an uninhabited barrier island in the shape of the number seven with mangroves, jungles, sand dunes and beaches and access to the MesoAmerican Caribbean Reef. The Cancún project was the first of the five areas approved for development in 1969 and infrastructure development began in 1970.²⁰⁶ INFRATUR merged with another program to create FONATUR, the National Fund for Tourism Development, which went on to lead the development plan. The development plan was as follows:

1. Build a tourism zone with hotels, shopping centers, golf courses, water sports and marinas facilities.
2. On the mainland build the infrastructure for permanent residents, with commercial areas, schools, public buildings, hospitals and markets.
3. Build an international airport.²⁰⁷

Thus, this newly formed city would physically divide the tourists from the incoming resident population, with the tourism zone built on the barrier island and the residential zone built on the mainland. This decision was based on concerns from unplanned tourism areas in Mexico like Acapulco where growth had resulted in overcrowding, inadequate housing, air and water pollution, lack of adequate infrastructure, and significant environmental degradation.²⁰⁸

Luring in foreign investment took some time, thus the first nine hotels in Cancún were owned by the government and the project was largely funded through loans from the Inter-American Development Bank.²⁰⁹ To attract investors, the government offered debt swaps, soft loans, and discounted land.²¹⁰ Unfortunately, Cancún grew more rapidly than anticipated. The first three hotels opened in 1974, the international airport opened in 1975, and Cancún quickly took off with approximately 100,000 visitors in 1975.²¹¹ Currently, there are over 32,000 rooms available in Cancún and 4.8 million visitors arrived in 2014.^{212,213} It has been estimated that 90% of GDP

in the state of Quintana Roo comes from tourism.²¹⁴ Cancún is now considered the most important tourism destination for Mexico.

The initial development plans called for open space, easy beach access, and building height restrictions.²¹⁵ As tourism boomed, Mexico became more eager to cash in on possible profits and with this came a relaxing of the development plans. Initially, Cancún was created as a “utopia” for the wealthy vacationer, but as the value of the peso fell, Murray (2007) explains, “what had once been an exclusive resort catering to wealthy foreigners became a favorite spring break destination for tens of thousands of college students, and the winter time dream of hundreds of thousands of middle and even lower income Americans. Hotel owners responded to this increase in demand which, coupled with the easing of building restrictions, led to a rate of growth that was unforeseen. The planned densities per hectare were also surpassed, as the relaxation of zoning restrictions allowed for bigger and taller hotels”.²¹⁶

1.5.3.3.1 Development of Cancún

A large number of workers were needed to build the resorts and migrants quickly arrived to fill these jobs.²¹⁷ However, the government and FONATUR had built the mainland residential area for a middle-class citizenry and were not prepared for the poorer workers that were unable to afford the residential area that came and squatted in a growing shanty town.²¹⁸ As the number of visitors increased year over year, so too did the migrants arriving for work. In the 1960’s the first census reported 117 inhabitants in the nearest town of Puerto Juarez primarily supported through fishing, but by 1975 there were approximately 10,000 people living in the area.²¹⁹ Unfortunately, the original estimates of expected migration and housing development needs were significantly off. Pelas (2011)²²⁰ reports that, “According to the regional delegate, Mr. Eduardo Muniz, FONATUR originally planned the worker village for 250,000 residents. By 2005, Cancún city had a population of 526,701”.²²¹ It is estimated that in 2014 the population grew to 722,800.²²²

The population explosion has created considerable issues for the city of Cancún. Hawley (2006) states, “The resort was a huge success. Foreigners loved this Disney version of Mexico where you could pay in dollars, speak in English, and drink the water...But while Cancún the resort has been a runaway success, Cancún the city has problems”.²²³ Torres and Momsen further elaborate that, “Cancún is essentially divided into three geographical spaces: (1) the tourist zone comprising the hotel strip on the island of Cancún...;(2) the FONATUR-planned service city for local government and workers; and what Marti terms ‘the lost city,’ the Colonia Puerto Juarez shanty town, which spontaneously developed with the arrival of impoverished immigrant populations seeking work”.²²⁴ With infrastructure created for fewer inhabitants in the worker zone and the development of a shanty town Pelas (2011)²²⁵ elaborates, “waste management and water treatment for permanent residents are strained. The overflow has set up a shanty-town periphery of recently-arrived laborers in search of work in the tourism center.

The Hotel Zone receives first priority in all service provisions, while areas in the service city and surrounding shanties compete for second billing.”²²⁶

The shift in the economics of the state of Quintana Roo since the development of Cancún in the 1970’s is astounding. Figure 9 from Pelas (2011) illustrates the shift from a largely agricultural region in the 1970’s to a primarily services (tourism) economy.

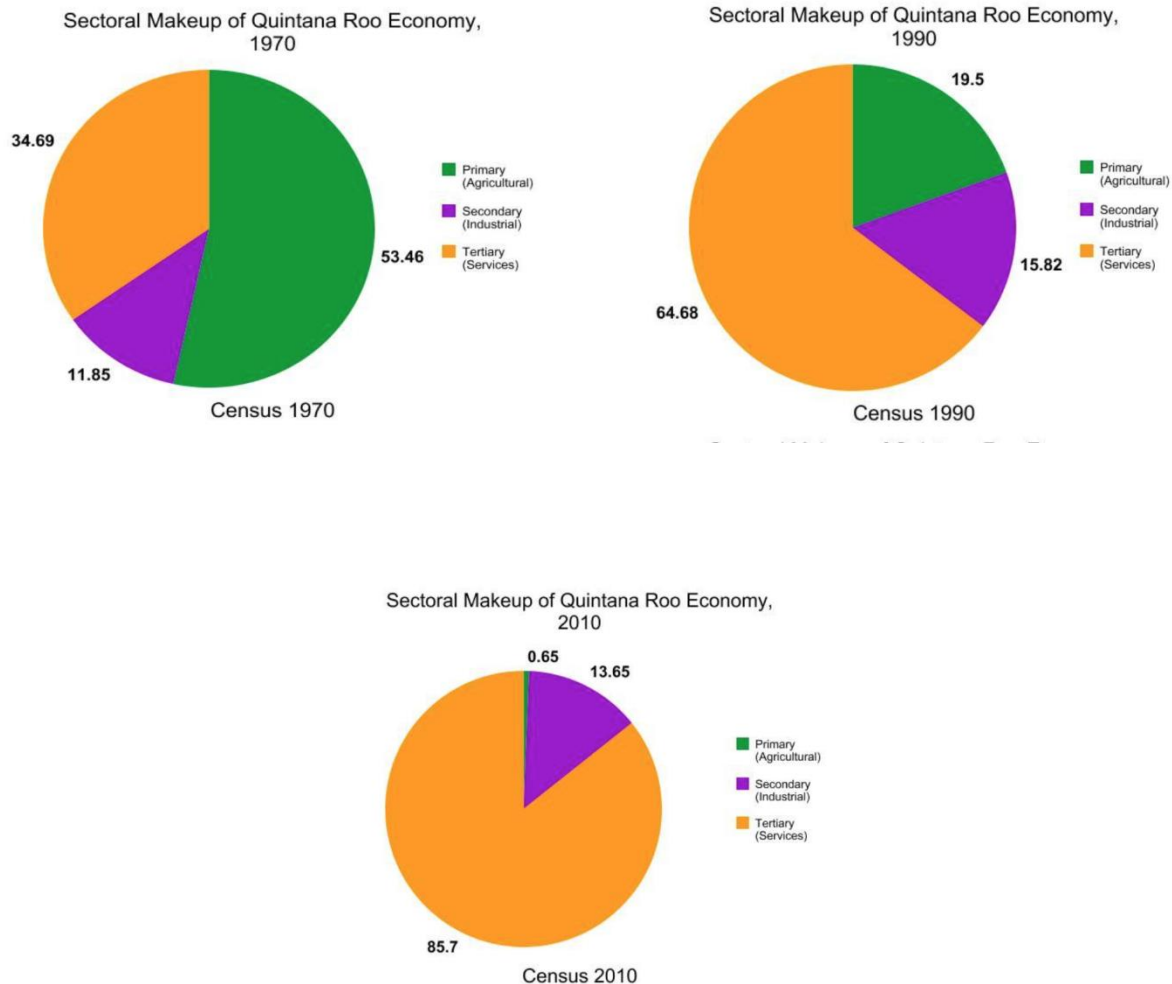


Figure 9. Sectoral Makeup of Quintana Roo Economy 1970-2010 (Source: Pelas, H., 2011)²²⁷

1.5.3.3.2 Social Issues in Cancún

One goal of the development plan in Cancún was to provide economic opportunity for the region. However, while it has provided employment to the region and its people, it is a clear cut example of the cultural, social and economic issues caused by mass tourism that have been previously discussed in this document. Pelas (2011)²²⁸ states:

The social impacts of big tourism in Quintana Roo have been particularly negative for its original inhabitants. The Maya region (loosely defined as the center of the state) has experienced profound changes during this period, including a massive outflow of youth seeking work in the north. In a sense, the Mayan area has become a marginalized periphery of the north, a source of cheap labor and raw materials.... Many of the jobs in Quintana Roo, particularly those in unskilled labor, tend to be lower paid and are subject to the inherent seasonality of the tourism industry. Although they serve to at least partially address the chronic poverty of the area, they are by no means constant or secure. Many of the non-skilled wage labor jobs of the tourism industry—construction, cleaning, gardening, and so on—are filled by young Mayans. Out-migration has meant a disassociation of the young from the traditional rites, festivals, and religious practices of the community, as well as a disruption in the cultivation of maize, the social fabric of the community. Furthermore, when these young DO return, they often bring with them ideas, customs, clothing styles, values and attitudes unfamiliar to previously insular prior generations.²²⁹

1.5.3.3.3 Environmental Issues

As development increased, the deviation from the initial plan caused damage to the dunes and mangroves.²³⁰ During initial development, 734ha of jungle was gradually deforested to create the city and hotel zone, 256ha for the international airport, and 270ha of mangroves for the hotel zone.²³¹ During the development of Cancún no specific environmental regulations existed for many years.²³² However, even when legislation was enacted the lure of tourism dollars has allowed continued environmental degradation. In 2007, Mexico revised their General Wildlife Law to prohibit the, "removal, refilling, transplant, pruning, or any project or activity that affects the integrity of the hydrologic flow of the mangrove, of the ecosystem and its zone of influence."²³³ However, the government approved the destruction of 57 ha of mangroves in Cancún. The project had laid dormant after approval in 2003 (prior to the 2007 law enactment) and destruction of the mangrove occurred in January 2016.²³⁴ A February 2016 court injunction has stopped work on the project.

In Cancún, the infrastructure has failed to keep up with the ballooning population. Only 30% of wastewater is treated and 70% of untreated water reached cenotes, lagoons, underground rivers or the sea.²³⁵ The Riviera Maya News reporting on the findings of a recent study by The Mexican Center for Environmental Law (CEMDA) stated, "Every year more than 14,000 tons of feces are filtered into the ground, while more than 11.2 million cubic meters of wastewater contaminated groundwater as a result of leaks in managed Aguakan networks in the municipality of Benito Juarez."²³⁶

1.5.3.4 Costa Rica Case Study

Ecotourism is the number one foreign currency earner in Costa Rica.²³⁷ Tourism in Costa Rica makes up roughly 4.9% of Gross GDP.²³⁸ Besides the natural beauty and biodiversity, Costa Rica has the added advantage of political stability, easy access from the U.S., an educated population, and lower poverty in comparison to other countries in the region. Costa Rica has three sites declared as World Heritage Sites by UNESCO.

Costa Rica is known today for its progressive environmentally policies and emphasis on ecotourism, but environmental protection has not always been a priority. Indigenous woodland, primarily tropical rainforest, covered over 75 percent of the country in the 1940's.²³⁹ However, by 1983 only 26 percent continued as forest and deforestation rates were at 50,000 hectares per year. With the implementation of new government policies, the deforestation rate fell to zero by 1998 and by 2011 forest cover had increased from 26 to 52 percent.²⁴⁰ Currently, there are 27 national parks, 58 wildlife refuges, 32 protected zones, 15 wetland areas/mangroves, 11 forest reserves, 8 biological reserves, and 12 other conservation regions providing twenty five percent of the country as protected area.²⁴¹

A gradual shift in policies at the government level from deforestation to forest protection has led to this level of protection and opportunity for ecotourism. The environmental movement that began in the 1970's led to the creation of Costa Rica's national park system.²⁴² In 1994 the constitution was amended to state that it was the right of "every person...to a healthy and ecologically balanced environment".²⁴³ In 1996, the National Forestry Fund was created and created financial incentives for environmental services through the Payment for Environmental Services (PES) program, Pago por Servicios Ambientales (PSA). Recognizing the importance of forested land for watershed protection, biodiversity conservation, natural beauty, and carbon sequestration the program initially paid \$120 USD for every hectare of forest conserved.²⁴⁴ As of 2011, \$230 million has been paid to individuals, indigenous, and rural communities and relies heavily on state funding through a fuel tax.²⁴⁵ The program has provided financial incentives for over 7,000 small and medium sized private landowners for the environmental services their forested land provides.²⁴⁶

The Costa Rica Tourism Board (ICT) implemented the Certification for Sustainable Tourism (CST) program in 1997 that while not perfect, has been cited by the World Tourism Organization (UNWTO) as a model template for sustainable tourism certification.²⁴⁷ The certification program was born out of a concern for "green washing", the practice of sticking a label on a service or a product as environmentally friendly without any oversight. The Certification for Sustainable Tourism is a voluntary certification program aimed at providing a quantifiable measure of sustainability levels for lodging, tour operators, attractions, and even car rentals. Currently, 223 lodging operations and 70 tour operators are certified. Nowakowski (2012) translated the CST's official certification procedures for lodging as follows:

1. "The establishment must present registration and affidavit documentation to the headquarters of the Instituto Costarricense de Turismo (ICT), Department of Sustainability.
2. For a month or so, there will be an internal ICT administrative level query to verify that the establishment has not had any previous problems with the ICT and/or with the CCSS (Costa Rican Social Security Institution).
3. An initial site-visit will take place where an auditor will give the establishment an introduction to the CST, where he will explain each of the survey questions/compliance criteria in the survey.
4. About three months after the initial site visit, scheduled in accordance with the establishment, the evaluation team will visit the company for a field evaluation (tour of the establishment, interviews, direct observations, documentary evidence of each of the survey questions and ethnography of the establishment).
5. After the evaluation, the establishment has eight calendar days to submit documentation that was not presented prior to or at the time of evaluation.
6. Using a computerized procedure, the evaluation team will use their results to conduct a preliminary analysis and evaluation of the establishment. This preliminary evaluation is then forwarded via email to the establishment.
7. The establishment has a maximum of eight days to request clarification or attach supporting information.
8. Evaluators will present the final results to the National Accreditation Commission.
9. Following analysis of the results by the National Accreditation Commission, the commission will award (or not award) a level of sustainability to the establishment. The establishment is given the guidelines for use of the CST logo and a summary of the obtained benefits and responsibilities of being certified under the CST.
10. As quickly as possible, the CST will give the company an official certificate for the establishment to display in a visible place.
11. At the end of each year, there is a banquet with the establishments that obtained the Certification for Sustainable Tourism during that year."²⁴⁸

Lodging is certified on a scale of one to five with a higher number associated with a higher sustainability score received. Beyond environmental values, one reason for hotels to participate in this rigorous and voluntary certification is economic benefit. A 2004 study by Rivera found a correlation between higher hotel prices and a higher sustainability score.²⁴⁹ Additionally, hotels reported financial savings with lowered operating costs due to energy saving technology, lowered water usage, less solid waste hauling, and chemical costs.²⁵⁰

Nowakowski (2012) citing LePree (2008) states, “the CST mandates that at least 60 percent of employees are local residents, that the administration of the hotel are Costa Rican and that employees are well trained and educated, thus building social capital and increasing the likelihood of advancement in the workplace. On a larger scale, the CST encourages hotels to buy local materials, thereby maintaining wealth within the country”.²⁵¹

Criticism of the certification program focuses on infrequent audits to assess validity and continued practice of sustainable practices.²⁵² “In 2010, the National Research Council’s Committee on Certification of Sustainable Products and Services held a workshop to discuss emerging third-party certification systems, where the committee produced a report titled, *Certifiably Sustainable? The Role of Third-Party Certification Systems*. Members of the committee contend that to date, scrupulous assessments of these programs have been “few and far between,” and there is little evidence of certification programs’ impact on environmental, economic, and public welfare outcomes.”²⁵³

Lastly, Costa Rica focuses on training and education to provide quality ecotourism services. Nature guides must be certified by the INA.²⁵⁴ Bachelor and Master degrees are offered at the University level in the ecotourism field, including ecotourism with a focus on wilderness management or administration and planning of ecotourism.²⁵⁵

A Case Study of Monteverde in Costa Rica²⁵⁶

Name of development: Monteverde City Centre

Exact location: Monteverde, Puntarenas, Costa Rica.

Management and coordination: A community with ecotourism as its main economic activity.

Description of main objectives, achievements, and constraints:

Monteverde is a region located in the central-north of the country, under the influence of climatic conditions of the Atlantic and Pacific slopes; reason why up to six different ecosystems have been identified within the relatively small area. Consequently, a great wealth of biodiversity is found here.

This region began its economic development in the 50’s, aided by the arrival of groups of Quakers, and soon after becomes known as a dairy region. In the mid-eighties, a tourist component is added to its development, based mainly on the existence of a valuable cloud forest, which years before had been discovered by scientists whose research results attracted the attention of the first visitors. With vision and through effort, Monteverde soon became one of the main destinations of specialized tourism, shaping the concept of that activity we now refer to as ecotourism.

Growth of the tourist offer (lodging, food services, transport and support services) not only promoted investment in infrastructure and services, but also stimulated and augmented conservation efforts bringing about the creation

of new natural reserves, public and private, and new tourist attractions (such as butterfly farms, an orchid garden and canopy tours); it was also the catalyst for undertakings in organic farming and for adequate waste management, and for the forming of groups of artisans and other groups catering to tourists' needs, and demands surged.

By 1995, Monteverde generated 18% of total tourist income at national level, and, although there are no new statistics available, it is thought that this figure, far from having diminished, has been maintained and probably has increased. At present, Monteverde remains a must for the nature-loving tourist thirsty for knowledge.

In the last 5 years, there have been new developments, including a centre of language learning, research and training specialized in biology and sustainable development. Also, conservationist NGOs, renown in the country, that carry out research and provide training courses such as the *Centro Científico Tropical (CCT)* "Tropical Scientific Center" and the *Asociación Conservacionista de Monteverde (ACM)* "Monteverde Conservationist Association" now call the area home. New tourist products are the *Sky Walk* and *Sky Trek*, which are systems of suspended bridges over the forest - developed by a Monteverde native, biologist and community leader -, gardens for observing hummingbirds, among others, and recently an increase in the number of available beds. The new tourist attractions have much greater added value and are generating employment, and also, have prompted the tourist to stay one more day, which has a positive effect on food and lodging services.

The ACM recently received a special mention on the part of the *Defensoría de los Habitantes* "Ombudsman's Office" for its work in conservation of hydrological basins in the region.

The CCT is a private consulting firm, created in 1962, by three renowned American investigators that are dedicated to research, training and organization of conferences on tropical forests. Since the 70's it is the administrator of the Monteverde Reserve, a private reserve that is one of the best known in the country and the world, and perhaps the best organized of its type and where hundreds of national and foreign tourists arrive monthly. The establishment of this reserve was the work of the ornithologist and investigator G. Powell and his wife, who were impressed by the wealth of birds in the Monteverde area and very alarmed at the threats the region faced on the part of hunters, land speculators and others. The Powells went to the CCT seeking help in establishing the reserve and save the biodiversity of the zone. From that time on, the CCT becomes the promotion agent for the reserve.

The centre carries out diverse research on tropical forests, especially cloud forests, and also maintains physical facilities on the reserve for visitation. It is a very clear example of how tourism can finance research and how this in turn can give added value to the attractions offered to the tourist.

Plans for improving the road that leads to Monteverde have been discussed, but these have always been abandoned by the CCT and other organizations in the Monteverde community, this in order to prevent an overload of visitors to the fragile mountain ecosystem they guard. In spite of the road, visitation grows with time. Due to the increase of daily visitors, in the late 80's, when the situation got out of hand, a restructuring of visitation, with aim of not permitting the carrying capacity of the reserve to be exceeded, had to be developed. Only a small portion of the reserve's total area is open to visitors through the use of several trails. This small percentage suffices to maintain operating cost of the reserve and the organization's research.

Another important reserve, adjacent to Monteverde, is the *Reserva del Bosque Eterno de los Niños* ("Eternal Forest Reserve for Children"), a product of the efforts of a Swedish teacher who was worried about the destruction taking place in the not-protected areas surrounding the Monteverde reserve, which she visited in the late 80's, with her children who were 9-year-old students at the time. Upon her return to Sweden, she began to raise funds in order to purchase the lands near the reserve. The idea grew and expanded to several more countries, and with the help

of schoolchildren from around the world, the lands were bought. This has served as an example in other parts of the world. One of her main activities at present is nature tourism. This reserve is administrated by ACM.

1.5.3.5 Cayman Islands Case Study

Cayman Islands Case Study

Source: Pelas (2011).²⁵⁷

The Cayman Islands provide a contrast to both Cancún and Jamaica in terms of the political structure, tourism planning and the role of international actors.

Located south of Cuba and west of Jamaica, the Cayman Islands consist of three small islands with total land area of 264 square kilometers. With a population of 51,384, it is one of the smallest destinations in the Caribbean, and one of those most dependent on the tourism industry. The Caymans are a British Overseas Territory, and as such are subjects of the United Kingdom. In contrast to Commonwealth nations such as Jamaica, Overseas Territories are under protectorate systems with the Crown. Interestingly, the Islands were governed as a single colony along with Jamaica up to 1962, when they took divergent paths. Where Jamaica chose independence and loose affiliation with the Crown, the Caymans chose to remain a Dependent Territory, a term that was replaced in 2002 by the British Overseas Territory Act. As a dependency of the crown, the Cayman Islands received substantial support from its mother country. The 2002 legislation gave full British citizenship to all overseas territories' citizens, and as such, Cayman Islanders enjoy full rights and mobility within the European Union. While the Islands are largely self-governed, the Queen's appointee has final approval over all laws, and the highest level of judicial appeal takes place in London with the Queen's Privy Council. The United Kingdom also provides military protection for the Cayman Islands.

Unlike Cancún and Jamaica, the Cayman Islands have enjoyed fairly stable governance throughout their history. This has been especially appealing to foreign investment there:

Businesses are not overly worried about possible upheaval in the political system, and trust the oversight of the United Kingdom. The Islands also enjoy a tax-free relationship with the Crown. As the story goes, Caymanians rescued a British ship from sinking on the coral reef offshore, and in return, King George III promised never to collect taxes from the colony. Whether that story is truth or legend, the tradition remains. There is no income, company, corporation, inheritance, capital gains, gift or property tax, nor are there controls on foreign ownership of corporations, property or land (Wilkinson 110). Government revenue comes primarily from import duties, a tourism tax of 10% on hotel rooms, and business licensing fees. In addition to financial stability, the Cayman Islands' political stability is at least partially attributable to the British colonial legacy previously discussed. In addition to generally higher levels of economic and human development, the Caymans' association as a dependency of Britain lends some credibility to their political and economic frameworks.

Much of the literature on tourism development has suggested its suitability for destinations that have no other economic alternative. In the case of the Cayman Islands, tourism has developed alongside an offshore banking

industry, and contributes about 70% of the GDP of the country while generating 75% of the foreign currency earnings (CIA World Factbook). The economic makeup of the Caymans is distinctively skewed to the services industry. In fact, the sectoral makeup of the Caymans more resembles the 2010 data from Quintana Roo than Jamaica. Despite the overwhelming importance of the service sector, though, the Cayman Islands offer a major service industry in addition to tourism: finance.

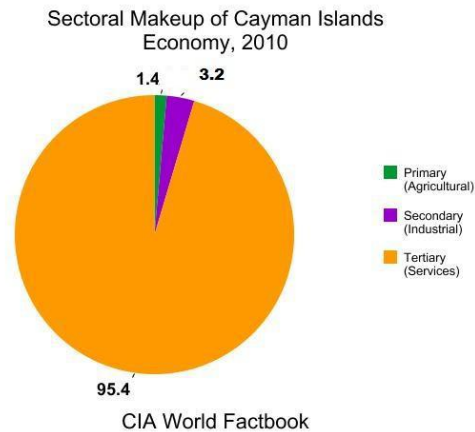


Figure 10. Sectoral Makeup of Cayman Islands, 2010

The Caymans have capitalized on tourism and banking precisely due to a perceived lack of other economic opportunities. Of the 264 square kilometers of land area, only 3.85% consists of arable land. There are no rivers or other freshwater sources, so water supplies to the islands depend on rainwater collection. Agriculture has not proven to be sustainable or profitable.

Despite the natural surroundings, fishing is not a strong industry either. "The Cayman Islands are surrounded by some of the deepest waters in the Caribbean and the continental shelf area of 255 km² for the 204 km of coastline...The amount of shelf area would limit large feeder populations for the islands and support the historical accounts of large nesting populations [of sea turtles+]" (Brunt and Davies 232). Like Quintana Roo, the Caymans saw their traditional agricultural products, in this case small outputs of thatch palm and rope, replaced by synthetic materials. Overfishing seasonal nesting populations of sea turtles depleted that resource as well.

Despite the lack of natural resources, the Cayman Islands have established a modern economy that enjoys a 43,800 GDP per capita. Wilkinson suggests that there are three reasons for this: first, the construction of an international airport (which opened up the islands to international visitors); secondly, the decision to remain a Crown Colony instead of seeking independence; and finally, the establishment of the Banks and Trust Companies Regulation Law of 1965 which allowed the establishment of offshore business centers (Wilkinson 112). There are now more companies registered in the Caymans than there are people living there, and despite criticism for being a haven for tax-evaders, the industry has been a strong contributor to the economic output of the country.

No industry in the Caymans has contributed more, though, than tourism. Unlike Cancún, its development has been driven almost exclusively by the private sector. "Most land in the Cayman Islands is privately owned and, following a survey in the 1970s, every piece of land is registered... There is no restriction on foreign ownership of land and, although there is no property tax on developed or undeveloped land, there is a stamp duty on the purchase of land" (Wilkinson 120). Tourism began to take off with the construction of a 250-room Holiday Inn in 1971. By 1993, there were 3453 rooms available to tourists, and estimates for 2010 cite 4332 rooms (Caribbean Tourism Organization: "Cayman Islands Arrival Statistics"). Despite the large offer of accommodations in a limited area with

a low population, ownership has not been attributed to international firms. The Caribbean Tourism Organization lists the Caymans as a destination in which 40-59 percent of the hotel offering is in hotels of 100 or more rooms, in contrast to both Cancún and Jamaica, which offer 70%+ of their rooms in large hotels. The government never took active participation in developing tourism on the island. Rather, it remained focused on infrastructural improvements, including some beach improvement through dredging (Wilkinson 115). “Unlike most other Caribbean islands, this development occurred without the need for many specific investment incentives. For example, whereas the [Government of the Cayman Islands] does give tax and duty concessions to foreign investors in the tourism sector, tax holidays per se are not needed as there is no direct taxation” (Wilkinson 115). That statement does not mention the 10% occupation tax imposed on hotel rates, but the general sentiment is correct. The Caymans have not been running hotels and golf courses: private capital has.

The Caymanian government, has, however, monitored the tourism development of the country since the 1970s. The implementation of tourism policies and planning began with the Development Plan and Regulations of 1977 (Duval 88). This policy recognized the potential effects of tourism on the environment and set forth laws for ecological preservation, many of which remain in effect. The plan was updated in 1987, reaffirming the commitment to sustainable and managed growth.

In place of the mass tourism that Cancún and Jamaica sought to cultivate, the Cayman Islands have actively sought to maintain an exclusive, luxury destination. “Focusing on the more up-scale and sophisticated traveller, marketing programs have been aggressive, positioning the islands as ‘quiet, safe, and friendly’—characteristics which these target vacationers want” (Duval 90). Room rates are among the highest in the region, and there are few all-inclusives. The government cautions “further large-scale development of Grand Cayman could destroy its attractiveness and the Little Cayman and Cayman Brac should be kept small scale in order to protect their natural environments and their up-scale market niche” (Laventhol and Horwath VI-32-5). The Caymans have established themselves as a premier dive destination, attracting visitors from all over the world who are willing to pay premium prices for experiences such as stingray encounters. The government has supported this niche because it attracts target upscale clientele. To that end, the Caymans purchased the decommissioned USS Kittiwake and recently sank it to create an artificial reef off the shore of the Seven-Mile Beach. Now that the sinking has been completed, private diving operations will maintain buoy moorings and run snorkel and dive excursions.

Alongside the tourism industry has developed a leading offshore banking center. Until the recession that began in 2008, this seemed to be an effective setup. Nevertheless, even the tiny Cayman Islands have been affected by the global economic downturn. In addition to the direct effects of bank closures on the island, arrivals suffered during the 2008-2009 period, as fewer travelers, particularly Americans visited. Reports indicate that arrivals are recovering, but it remains to be seen whether they will reach pre-recession levels. The following graph shows the latest tourism arrival statistics. Note that numbers in 2006 fell due to Hurricane Ivan’s damage to the islands but recovered by 2007. (Data was not reported for 2005).

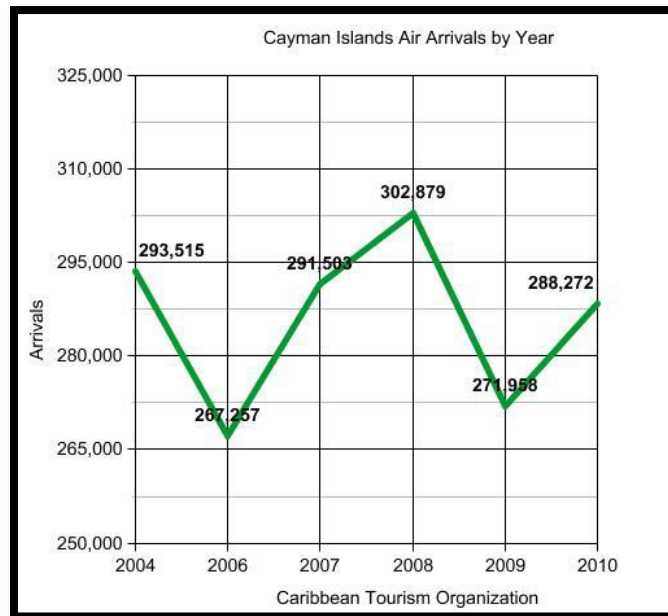


Figure 11. Cayman Island Arrivals 2004-2010

Despite the expected recovery of the Caymanian economy, planners are looking to alternate sources of income to diversify. Plans are currently underway for a 2,000 bed medical facility that aims to attract medical tourists seeking lower-cost, high-quality healthcare. “The Caymans' incentive package for the new hospital includes duty waivers on \$800 million of medical equipment, recognition of Indian medical credentials and a discount of up to 30 percent on work permit fees for the influx of foreign workers expected to staff the hospital”(Reuters 23 March 2011). It is hoped that the facility will allow the Caymans to develop a new industry to supplement incomes of the tourism and banking sectors.

While the Caymanian government’s recent initiatives suggest that the government is more involved than the literature states in tourism development, one should recall that the focus of “tourism development” has largely been in the Fordist model of mass tourism. I would posit that, unlike the Cancún project’s focus on fundamental tourism production, the actions of the Cayman Islands with regards to the sinking of the USS Kittiwake and proposed hospital project are examples of Caymanian husbandry in the tourist industry. Diving is already a popular activity for tourists traveling to the islands: sinking the Kittiwake gives added value to that industry without taking such an active role. The support offered by sinking the ship may open doors to new dive operators, increase sales of existing enterprises, and increase overall tourism sales. In the hospital case, the proposed growth of the medical tourism industry capitalizes on the popularity of existing tourist offerings while attempting to link an industry highly influenced by externalities to a more steady industry: healthcare. This reflects some margin of flexibility in the Cayman approach and suggests that the destination will continue to mature beyond the strictly Fordist principles of mass tourism.

1.5.3.6 Belize Case Study

Case Study: Punta Gorda, Belize

Source: Morena (2005).²⁵⁸

The Toledo District (Toledo) is the southernmost district in Belize, sparsely populated compared to the rest of the country, and very sparsely populated compared to neighboring Guatemala. Population density in Toledo is about six persons/km², compared to nine persons/km² for all of Belize, 49 persons/km² in Honduras, and 95 persons/km² in Guatemala (Heyman, 1996). Economic activity in the district is low and based heavily on subsistence and small-scale commercial fishing in and around Port Honduras, the Belizean bay that stretches along the southeastern edge of Toledo. Development is expected to increase in the near future due to the paving of the Southern Highway connecting Punta Gorda, (pop. 5000, the largest town in Toledo) with the rest of Belize.

Culture in Toledo is somewhat less US-influenced than on Ambergris Caye. Afro-Caribbean and Creole peoples dominate the coast, and Mopan and Kekchi Mayan peoples dominate inland areas. A handful of US and European expatriates and aid workers dot the population. Sparse population and a subsistence fishing economy have contributed to a quiet, relaxed atmosphere with relatively limited racial tensions.

Various schemes have been proposed to increase the economic benefits of resource exploitation in Port Honduras, including better handling of processed fish, increased access to ice, and possible export of smoked fish and/or lobster head meat (in addition to lobster tail) (TIDE, 2000; Rio Grande Fishing Cooperative, 2002, Personal communication). Still, the most widespread hope for economic growth lies in ecotourism. Toledo has a wealth of natural resources in its forests, lagoons, and rivers, and marine waters both in Port Honduras and offshore have begun to attract fishers and some tourists from outside the area. Efforts have been made at the local level to increase the popularity of ecotourism (e.g., kayaking, hiking, birding, and fishing) in Port Honduras and surrounding areas. Current tourist arrivals in Punta Gorda are still limited to perhaps one to two thousand annually.

Catch-and-release sportfishing seems an especially promising growth industry as the coast supports some of the country's best permit fish, tarpon, bonefish, and snook fishing grounds. The Voice of the Fishermen of Southern Belize, a publication of the Toledo Institute for Development (TIDE), a local non-governmental organization voicing local fishers' concerns about declining fisheries yields, writes: "... the total annual value of the snook fishery (in southern Belize) is US\$6000, but a recent flyfishing trip to a coastal village in Belize brought over US\$7000 into the community during a 7-day period and left the fish in the water to be caught again" (TIDE, 2000). Such arguments, along with evidence of declining stocks and the perceived importance of Port Honduras as a fish and macroinvertebrate nursery area, helped generate community and governmental support for the establishment of the huge, 450 km² Port Honduras Marine Reserve (PHMR) in 2000. PHMR regulations provide for a series of small no-extraction zones around the Snake Cayes, near the seaward edge of Port Honduras, surrounded by a large semiprotected general-use zone in which gillnetting and longline fishing are prohibited, but handlines are still allowed. Before 2000, there were no fisheries restrictions specific to Port Honduras or surrounding coastal waters. As of 2002, the PHMR had no access fee.

In contrast to the declining numbers and size of several commercially valuable species in Port Honduras in the years preceding reserve establishment, fishing pressure in the PHMR appears to have dropped (Toledo Institute for

Development and Environment [TIDE], 2002, Personal communication with PHMR rangers). This trend appears to have intensified with the prohibition on gillnetting in the reserve and may also be linked to the rising cost of fuel (>US\$3/gallon in June 2002), large quantities of which are required to travel the long distances to productive fishing grounds. Though few fishers have abandoned fishing altogether, many have begun relying on other means of income generation.

Through semistructured interviews with 13 local fishers, I found that proportion of fishers who held other jobs was somewhat higher than in a 2000 study, with only three out of 13 respondents (23% vs. 38% in 2000 (TIDE, 2000)) claiming to fish full-time. This lowered proportion may reflect the emergence of more lucrative alternatives to fishing and/or the continued depletion of fish stocks in the PHMR. Approximately 50% of the part-time fishers' collective work hours were spent fishing; the remainder was spent in other pursuits. Among these, the most popular were skilled labor and farming, which often required daily or weekly migration throughout Toledo, and sometimes to Belize City. Of the total work time spent by fishers throughout the year, 2% was spent guiding tours in the area. There is substantial and widespread hope that local ecotourism will increase in popularity (Moreno, 2002).

Two of the 13 fishers said they had guided tours in the past; one claimed to have worked as a tour guide in the past year. Both guides had led several birding tours on Monkey River, a waterway along the northern edge of Port Honduras, and the guide who worked most recently had some experience leading groups of flyfishers who came into Port Honduras on day trips from Placencia, a popular coastal resort town to the north of Toledo. The flyfishing guide said he maintained an arrangement with a Placencia-based guide to provide local tour service to visiting fishers, especially in the Ycacos Lagoon, a newly discovered coastal hotspot for permit fish. For his time (the boat and gear used on the tour belonged to the Placencia-based guide), the local fisher earned US\$100 per day. Most other fishers interviewed, especially the younger fishers, said they would very much like to work as tour guides, and almost as many said they would be interested in receiving formal tour-guide training, especially if it increased the likelihood of receiving future clients. Three fishers, including the two guides, said they had received some tour guide training on an informal basis. Many of those who expressed an interest in working as tour guides claimed they already had the sufficient knowledge to lead tours; they just needed tourists.

The primary common property resources (CPRs) of interest in this case are the waters of Port Honduras, the sportfish stocks, and local culture. Fishing remains the main use of Port Honduras. Fishing grounds have traditionally been shared in informal agreements, and now, PHMR regulations limit fishing within the reserve. Because southern Belize is wet (annual rainfall is 4 m), and because coastal property in this area is largely devoid of beaches and is not close to coral reefs and other common tourist attractions, foreign development is not likely to be widespread enough to threaten traditional land tenure. Foreign investment in the Punta Gorda area is currently low, though its best oceanfront hotel and only watersports shop are owned by US expatriates.

Developing an Ecotourism Strategy

TIDE serves as the PHMR management authority under an agreement with the Government of Belize. Founded in 1997 with support from The Nature Conservancy and other international organizations, TIDE has developed into a significant land manager in the Toledo District. TIDE also manages Payne's Creek National Park and several thousand acres of forested tracts between the Maya Mountains and the Caribbean coastline, acquired by TIDE in association with a recent US-Belize debt-for-nature swap. TIDE enforces PHMR regulations through regular patrols from a permanent ranger station in the center of the bay. It is also a proponent of sustainable development in Toledo District. Recognizing that Toledo is relatively undeveloped despite its natural resources, and that the establishment of protected areas has increased a local need for non-fishing jobs, TIDE has championed the cause of alternative income generation, primarily through ecotourism. Their efforts serve as a coastal complement to

those of the Toledo Ecotourism Association, which arranges rustic guesthouse accommodations in small, primarily Mayan villages throughout the district.

TIDE has developed a tour guide training and certification program with assistance from the Belize Tourism Board, and has recently formed a new department within their organization called TIDE Tours, a service aimed at matching tourist groups with certified local guides. Approximately 100 guides are currently listed with TIDE Tours as of 2002, and that number is growing. TIDE Tours has two full-time employees and is developing a website capable of handling online tour reservations.

In addition, TIDE also serves as an education-outreach body on conservation matters, a science and research facility (part of its mandate is environmental monitoring), and a general community support center. Shortly after Hurricane Iris hit southern Belize in 2001, TIDE employees played a major role in organizing and delivering relief. Considering that Toledo tends to be overlooked in national governmental affairs, TIDE may be the most meaningful government-like presence in the district. With more than a dozen employees, it is certainly the largest. However, many southern Belizeans find TIDE's large and expanding set of management initiatives strange and inherently suspicious, given the historically low level of investment in the region. Approval of TIDE as a reserve manager was decidedly lukewarm; about half of those interviewed said they didn't think TIDE was doing a very good job, although the other half said they thought TIDE was doing well enough. When asked what one thing TIDE could do to improve its management of the PHMR, various responses were offered. One fisher said he thought TIDE should do more to protect sportfish in the area. Two others said TIDE needed to patrol the reserve more frequently to catch gillnetters and poachers of lobsters and conch on the Snake Cayes. A fourth complained that TIDE was not doing enough to help train prospective tour guides and include them on their list of active guides to recommend to enquiring tourists. The most common response was that TIDE needed to do more to stop intrusion of foreign fishers into Belizean waters.

Foreign fisher intrusion into Port Honduras is a growing and highly sensitive concern. Though TIDE's primary purpose in the PHMR is to enforce reserve regulations, increasingly the organization is being expected to enforce more general Belizean fisheries law, including season restrictions and prohibition of foreign (primarily Guatemalan) fishers. The stocks of

Port Honduras and the offshore Sapodilla Cayes are less exploited relative to those in Guatemala and Honduras (Heyman and Kjerfve, 1999), and large-scale buyers in these other countries usually make it easy for foreigners (and Belizeans) to sell their entire catch upon landing (TIDE, 2000, 2002, Personal communication with PHMR rangers). Illegal smuggling of fish to Guatemala and Honduras is seldom prosecuted. More than half of the fishers interviewed expressed concern that foreign fishers are depleting sportfish stocks that have high value as tourism attractions.

During the study period (2001-2002), residents of Monkey River Town often complained of a transient Guatemalan fishing camp that had developed just north of town. They argue that TIDE's patrols of the PHMR have in effect driven the illegal fishermen to their doorstep where they are effectively beyond prosecution. The camp is most pronounced during Lent, when Guatemalan fishers seek to meet the high demand for salt fish in their predominantly Catholic country. The few attempts by Belizean Fisheries Department and local police officers to break up the camp were largely unsuccessful-illegal fishers without false documentation simply hid or fled and returned later. Currently, the only meaningful Fisheries presence is in Belize City, several hours away by boat or car. TIDE rangers have limited means of punishing illegal fishers, and many rangers actively avoid confrontations with foreign fishers, many of whom are armed with guns. The issues of foreign fishers aside, TIDE and Punta Gorda face two other challenges in developing sportfishing in the area: advertising and suitable accommodations. Advertising of sportfishing opportunities in southern Belize has had a slow start, but potential is vast here,

especially given the availability of the internet. TIDE Tours maintains a website that could be further developed to attract sportfishers. Nation-based websites by the Belize Tourism Board, the Belize Audubon Society, and Belize by Naturalight could also be utilized to feature specific areas or facilities in Port Honduras. As sportfishing becomes more popular, word of mouth will likely contribute to the advertising efforts. The declaration of Port Honduras as a protected area will only increase its marketability.

The larger issue, the one that has meaningful implications for the distribution of economic benefits, cultural impacts and the overall validity of ecotourism in Port Honduras, is suitable accommodations. There is a chance some sportfishers will stay in village guesthouses via the Toledo Ecotourism Association, but sportfishers, for the most part, are not budget travelers. Those that can afford the high costs of fishing tours generally demand high end accommodation and meal packages at resorts or lodges, such as those offered further north on Ambergris Caye or Belize's Turneffe Atoll. The closest town to Punta Gorda that can offer such lodging is Placencia, about 20 km north of Monkey River Town. As noted, some sportfishers from Placencia have begun to make the trip down to Port Honduras, primarily for permit fishing, demonstrating the potential of the bay as a major attraction. The few sportfishers that stay in Punta Gorda usually sleep at the Seafront Inn, owned by US expatriates. Construction of a sportfisher-oriented resort or full-service fishing lodge around Port Honduras is probably inevitable in the next decade or two, provided investment potential continues to rise. Whether a local entrepreneur or an outside interest or a combination of the two will take advantage of the opportunity is unknown, but the odds against local investment are high. The Belizean dollar has experienced 10-20% annual inflation over the past ten years (Belize Central Statistics Office, 2002, Personal communication), pushed higher recently by rising fuel prices. Loan rates for Belizean small business owners are similarly elevated.

On a cultural scale, the Toledo District is underdeveloped and sparsely populated with an economy historically based on subsistence fishing and farming. Few locals have both the capital and business experience to make long-term investments. Of the fishers who expressed an interest in leading sportfishing trips, none expressed an interest in opening a hotel or fishing lodge themselves. Many locals at the time of this study expressed passive feelings toward development in general. This may be due to the chronic presence of foreign aid organizations in Toledo (e.g., Peace Corps, Trekforce, Christian missionaries, foreign-funded clinics), the relative transience of aid volunteers and development schemes, and the fact that Toledo is still relatively poor. Most of the fishers interviewed expressed optimism that ecotourism would improve the lives of Toledo residents, but many other residents expressed the fatalist view that despite development interests, their personal economic lot was not likely to change.

In TIDE and the PHMR, Punta Gorda and surrounding communities have mechanisms in place to protect the two physical CPRs of interest in this case, the coastal waters and the sportfish stocks. But the mechanisms focus on limiting consumption of the resource, not access. Support for the PHMR is already threatened by a foreign presence, the illegal Guatemalan fishers, and further (albeit non-consumptive) exploitation of the fish stocks by foreign sportfishing operators may further erode hopes for conservation. Existing Belizean law is not likely to discourage the dominance of foreign investment in sportfishing and ancillary ecotourism ventures. Whether foreign investment would translate into widespread benefits for the people of Toledo seems to be dependent on the preferences of the developer, a matter of chance. There is limited discussion of these implications among prospective tour guides, who are largely concerned with getting clients. Even further distant is the discussion of how Punta Gorda culture may change as the local economy changes from one of autonomous subsistence to one of serving foreign tourists, possibly through a foreign employer.

1.5.3.7 Large Scale Resort Case Study: Fairmont Mayakoba Quintana Roo

Fairmont Hotels & Resorts was one of the first large scale hotel companies to create a sustainability program and mission statement.²⁵⁹ Their Green Partnership Program was launched in 1990 and their website states that it focuses on, “improvements in the areas of energy and water conservation, waste management, and innovative community outreach programs involving local groups and partnerships”.²⁶⁰ In 2011, they announced that all renovations and new construction would be LEED certified.²⁶¹

The Fairmont Mayakoba at Quintana Roo has taken numerous measures in sustainability and responsible tourism. The full document of their measures can be found here:

<http://www.fairmont.com/mayakoba-riviera-maya/pdf/myk-green-partnership-program/>

Below are a few key highlights taken directly from the document:

- “All Fairmont-managed golf courses are enrolled with Audubon International Cooperative Sanctuaries, an organization which sets guidelines for an international system of wildlife and environmental conservation.
- Reducing pesticide use by opting for organic or natural pest control and only spraying when needed as a restorative measure, not on an ongoing basis. (using other beneficial organisms to eliminate any pests that may damage the golf course).
- Planting drought tolerant or indigenous species.
- When in season, the hotel’s exclusive restaurants, including El Puerto, offer sustainable lobster from the Punta Allen fishermen community, within the Sian Ka’an Biosphere Reserve. Punta Allen fishermen apply special techniques to capture the lobster in a sustainable manner, thus maintaining and even increasing its population.
- Waste management program to sort recyclable, non-recyclable and organic materials.
- Hotel’s recycled materials are sold to local recycling facilities with all profits used to fund further local environmentalist initiatives. Recycle bin in guest rooms for collection of aluminum, plastic, paper and/or cardboard materials.
- Specially designated composting area to process all organic gardening materials.”
- The hotel uses a treatment plant to process grey waters, which is later used as a source of irrigation for the property’s golf course and gardens.
- The hotel has partnered with Sian Ka’an Community Tours, a community-based tour operator that has been recognized for its leadership in responsible eco-tourism, and offers guided tours within the Sian Ka’an Biosphere Reserve, a World Heritage Site near the hotel”.²⁶²

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2 Tourism and Cuba

2.1 History of Tourism in Cuba

The first wave of tourism in Cuba began in the 1920's, as thousands of Americans under prohibition laws surged to the island to drink freely. By 1930, Cuba had 80,000 tourists, 85% of which were American.²⁶³ In another effort to escape US laws a decade later, this time concerning the regulation of gambling, Americans headed to Cuba to offshore casinos, run by criminals who were sometimes partnered with the oppressive but US-backed Cuban president, Fulgencio Batista.²⁶⁴ Tourism during this period peaked in the late 1950s with around 272,000 arrivals.²⁶⁵

Beginning in 1956, Fidel Castro and a large following of leftist revolutionaries arrived on the island to unseat Fulgencio Batista. For many during the revolution, the casinos and bars that catered to mainly US tourists displayed exactly what was wrong with unchecked capitalism during Batista's oppressive rule. In 1959 crowds of revolutionaries even looted US casinos in a display of revolutionary austerity.²⁶⁶ After the Cuban Revolution was completed and Castro took power in 1959, all US businesses on the island were nationalized and formal diplomatic relations between the US and Cuba were severed. Commerce and travel between the two nations became severely restricted. Controls were tightened in 1962 when US President John F. Kennedy placed an economic embargo on the island, setting restrictions on travel and trade.²⁶⁷ The new constraints on tourism led to a lack of hard currency generated at a local level, exacerbated by the nationalization of many industries under Castro's revolutionary economic plan.

Immediately after the revolution, the modest state-led investment into tourism activities attempted to limit the contact between locals and tourists. Shops and hotels near the beach were developed far from population centers, in accordance with Fidel Castro's ideas of Communist austerity and doing away with the excesses of capitalism

Further economic hardship hit the island with the dissolution of the Soviet Union and the beginning of what is now known as the "Special Period" in Cuba, a euphemism for an extended time of economic crisis beginning in 1989. Cuba saw a major decline in the economy, which depended on Soviet oil imports and military assistance for survival. Cuba's industry and agriculture became paralyzed, GDP dropped by 34%, and persistent hunger became a daily reality. To replace the lost oil funds, the Cuban government turned towards tourism to generate hard currency, aimed at Western European and South American nations as travel to the island was prohibited to US citizens.

The 1997 Cuban Economic Resolution delineates the need for the development of new, hard-currency earning sectors, thus making tourism an important part of the redefined Cuban

economy today.²⁶⁸ Foreign companies have become increasingly interested in investing in the Cuban tourist sector, with a law passed in 1995 spelling out the rules for foreign investment.²⁶⁹

Tourism in Cuba grew steadily, punctuated by an expected downturn at the recession in 2008, until recently rising to a peak revenue of \$2.8 billion USD in 2015.²⁷⁰ In this same period, the Cuban government began to market value-focused lodging and services to lower-income, and therefore lower-spending, travelers from Canada, Russia, and Europe, in contrast to the high-spending, well-off populations of American tourists arriving in the 1950s.

The Special Period officially ended in 2005, as Castro closed many joint ventures and foreign investment agreements, partnering with Venezuela as an economic alternative. Reforms also began to be introduced, authorizing limited forms of self-employment and generating some hard currency for the cash-strapped society. Fidel was succeeded by his brother Raúl Castro in 2008. Although the younger Castro still retains his reputation as a dedicated Communist, he has been gradually introducing economic, social, and political reforms. 300 distinct reforms were put in place at the beginning of his term, including easing domestic restrictions on commerce and travel, the privatization of some jobs in the military and public construction, the dismissal of excess state employees, an opening to foreign investment, and a two-term limit for the office of the president.²⁷¹

2.2 Current Tourism in Cuba

In 2014, the ratio of international arrivals to residents was 0.26, a large jump from the low number of arrivals immediately after the Special Period. For comparison however, the extremely high-volume Caribbean destination of Jamaica has a ratio of international arrivals to residents of 0.76.²⁷² The tourist industry's growth has been limited due to a range of factors, such as strict environmental protection laws, and like all industries in Cuba, heavy regulation by the state. The tourism industry specifically is regulated by the Ministry of Tourism, although other government agencies play important roles in issuing permits, tracking employment, and monitoring environmental impact.²⁷³ Due to Cuba's self-reliance after the fall of the Soviet Union and its status as a developing nation, tourism was, and continues to be, pushed as a means of national development.

Caribbean tourism today is heavily dependent on the seasonal preferences of European and Canadian travelers trying to escape harsh winters, creating high and low seasons. There is an increasing effort to market Cuba's attractiveness based on its unique cultural, historical, and artistic heritage to promote, stable, year-round visitation.²⁷⁴ Cuba's unique geographic location may work to contradict the seasonal instability the rest of the Caribbean sees, as it is located between North and South America. The high seasons for tourism on each continent fall in different months of the year, and if marketed well, could avoid overcrowded months followed by empty ones. Cuban tourism is principally concentrated at two points: Havana and Varadero

Beach, which combined constitute 70% of national tourism revenue. To address this issue, the Cuban government has laid out eight main regions identified as “tourist poles.” These geographical regions will receive investment in order to make spending efficient and targeted towards areas that will generate the most returns while expanding tourism across the island. \$700 million USD has been invested in infrastructure for these regions so far.²⁷⁵ Another main area of investment is the hotel industry. By 2000, Cuba had the second largest number of hotel rooms in the Caribbean.²⁷⁶

In contrast with the mass tourism model the rest of the Caribbean provides, Cuba has claimed to be approaching tourism in a generally more sustainable, integrative manner. This is not immediately reflected in the high level of all-inclusive resorts, which represent 81% of the nation’s hotel room supply. (Excluding Havana and Trinidad causes the figure to rise to 94%.) The estimated incoming room supply for Cuba remains high, but at an estimated 70% is lower than the current average.²⁷⁷ Meanwhile in recent years the supply of *casa particulares* has risen sharply (see 2.2.2 below).

Cuba’s Tourism Minister Ferradaz stressed that tourism would continue to be a key sector of the Cuban economy, but that “guidelines have been set about the kind of tourism that Cuba wishes to develop as a destination.” Fidel Castro himself called it “healthy tourism,” denouncing sex tourism, gambling, and drug-based tourism that has befallen other nations.²⁷⁸ Tourism in Cuba today, at both national and private levels, is being looked at as a strategic and sustainable development, not as a way to maximize profits and arrivals at the expense of the environment and society.

2.2.1 The “Tsunami Norteamericano”

On December 17, 2014, US President Barack Obama and Cuban President Raúl Castro simultaneously announced plans to normalize relations between the two countries after nearly 50 years without formal diplomatic relations. Following the announcement, numerous reforms were announced by the Obama Administration with significant impact on Americans’ ability to travel to Cuba. While the economic embargo remains in place and touristic travel to Cuba is forbidden, most Americans could travel to the island only on guided “people-to-people” tours dedicated to “meaningful interaction” with the Cuban people. (“People-to-people” tours, initiated under the Clinton Administration, were prohibited during much of the subsequent Bush Administration and later restored by the Obama Administration.)



Figure 12. The Historic Reopening of the Cuban Embassy in Washington, DC, July 20, 2015 (D. Guggenheim)

Following the initiation of normalization of relations, the Obama Administration permitted “self-directed” people-to-people travel, eliminating the need to travel as part of a tour group. The combination of normalization and fewer restrictions led to an explosion of US “tourism” in Cuba, referred to by many Cubans as the “tsunami norteamericano” (the American tsunami). The new self-directed people-to-people was especially beneficial to individuals renting rooms in their private homes (*casas particulares*) – see 2.2.2 below).²⁷⁹ Given the rise in demand for home stays, Airbnb entered the Cuban market.

US visitation to Cuba rose dramatically, but visitation by the rest of the world sharply rose concomitantly. Anecdotally non-US visitors were anxious to see Cuba before the impact of US tourism changed the Cuban experience. Indeed, catering to US tourists changed the face of many locales throughout the Caribbean, including Cancún, México, which is often cited as being an Americanized version of México.

From 2014 to 2015, Cuba’s tourism rose by 17.6 percent to 3.1 million tourists, a rate increase roughly quadruple the world average during that period. By 2016, the US represented the second largest source of visitors to Cuba after Canada, an increase of 80% over 2015. In 2017, Cuba received 4.7 million visitors (1.5 million from the US, including Cuban-Americans), a 16 percent increase from 2016.²⁸⁰

However, since 2017 Cuba’s travel industry has been affected by three major events: Warnings issued by the US not to travel to Cuba following unexplained ailments of US diplomats attributed to “sonic attacks,” Hurricane Irma, a Category 5 storm that caused widespread damage along tourist facilities on Cuba’s north coast, and a series of vague and confusing statements by the Trump Administration, including new restrictions regarding trips to the island. The restrictions include prohibitions on hotels, marinas and some products with connections to the Cuban military (which has a large hand in the tourism industry). The Trump restrictions also eliminate self-directed people-to-people trips (though group-led trips remain permitted). According to Cuban government statistics, during the first three months of 2018 a total of 95,520 Americans visited Cuba, a 40 percent drop from the same period the year before.²⁸¹

2.2.2 The Role of Cuba’s Burgeoning Private Sector in Tourism

While the state remains the preeminent actor in the tourist sector, the non-state sector is gaining ground in tourist revenues. With restrictions on private business easing since Raúl

Castro's reforms, many people have opened their own restaurants (*paladares*), room rentals (*casas particulares*), private construction companies, driving services and other self-employed small businesses (collectively, "*cuentapropistas*"). In 2015 the private sector accounted for 30% of tourist spending, amassing CUC 1.3 billion.²⁸² Additionally, the number of Cubans officially registered as self-employed grew from 144,000 in 2009 to 535,000 in 2016.²⁸³ There are now 201 state-sanctioned categories for self-employment and entrepreneurial business. In order to open a private business, the job description must be included in this list. However, many prominent opportunities in tourism are included, a promising development for the private sector still in its infancy.²⁸⁴ The private sector grew quickly, relative to the heavy state regulations imposed on it, and in some areas, regulation has not yet caught up with entrepreneurship and innovation. There has been concern expressed about the need to better educate *cuentapropistas*, including those involved in tourism, in sustainable business practices and environmental stewardship.²⁸⁵ In August 2017 the Cuban Ministry of Labor and Social Security issued a resolution suspending the issuance of new licenses to Cubans for a number of self-employment businesses and indefinitely suspending new licenses for others, creating uncertainty for the future growth of *cuentapropistas* in Cuba.²⁸⁶

2.3 Current Plans for Expansion of Tourism

Cuba's Ministry of Tourism (MINTUR) has adopted a twenty-year plan for the growth of the tourist industry in Cuba with domestic and international partners for its implementation. The plan heavily emphasizes sustainable development and environmental protection, the latter of which Cuba is already internationally recognized for.²⁸⁷ The Cuban Ministry of Science, Technology, and the Environment (CITMA) carries out sustainability efforts within any new tourist developments. The government has increased infrastructure funding for tourism, and a head tax is now in place in Havana to reconstruct Old Havana and the Malecón Waterfront.²⁸⁸ The government has made substantial gains in development within this framework, but there is also substantial opportunity for the private sector to increasing the creative, sustainable, and economically beneficial tourist activities on the island.

April of 2016 marked the convening of Cuba's Seventh Party Congress, an event which occurs every five years to discuss the nation's economic and political priorities. This time, the meeting included Cuba's 2030 development plan, which outlines national economic development until the year 2030. Included in this is the development of the tourism sector, focusing on attracting foreign investment, enabling limited market reforms, and reforming related state-owned enterprises.²⁸⁹ The Vision Plan's stated goals include tripling tourism revenues and raising the number of foreign visitors to 10 million by 2030. Under this plan, MINTUR projects that 107,900 new hotel rooms will be added between 2016 and 2030; 30,000 of which will be built with foreign investment.²⁹⁰ The Cuban government has recognized the importance of tourism to the nation's economic future, labeling it as a strategic sector. Other industries such as agriculture

and biotechnology have promise and are already growing in Cuba, but with strong foundations and a workforce already well-educated in the fields of sustainability and tourism, no other sector has the potential to generate such large returns so quickly. The Brookings Institution estimates that Cuba could attract three times as many tourists by 2030, generating ten billion in foreign exchange, and helping to alleviate the island's budget deficit- which is expected to hit 12% of GDP this year.²⁹¹ The potential and technology to develop the tourist sector exists and could take off quickly, the question now is whether this growth can be done in the culturally and environmentally sustainable manner Cuba has demonstrated thus far.

2.3.1 Cuba's Environmental Regulations and Management

Cuba's current environmental system, built and supported by multiple agencies in the Cuban government, NGOs, and scientists, is one of the strongest in the world, providing a robust basis for implementing sustainable tourism practices. Highlights of this national plan for environmental conservation include the creation of Cuba's Ministry of Science, Technology and the Environment (CITMA), Cuba's National Park System (SNAP), Environmental Law 81, the National Plan of Marine Protected Areas in Cuba, the UN Program BASAL (*Bases Ambientales para la Sostenibilidad Alimentaria Local*; Environmental Basis for Local Food Sustainability) and, following the restoration of diplomatic relations with the US, the Cuban-United States Sister Sanctuary Program.

CITMA was created to consolidate the bureaucracy's work on scientific research and development, as well as emerging topics including renewable energy and sustainable development. CITMA's work draws from a diversity of scientific fields and prioritizes food production, research in biotechnology, mitigating and adapting to the effects of climate change, the rational use of natural resources, pollution control, and protecting Cuba's outstanding biodiversity and ecosystems.²⁹²

Cuba's National Park System, comprised of over 200 areas and covering around 17% of Cuba's territory, has also produced written commitments to the expansion of parks and conservation efforts.²⁹³ Each park is protected by a wealth of complex legal and political documents, and all protected areas have been rigorously mapped and surveyed, recording their biodiversity and value for the environment, economy, climate, and society. The park system is under the joint management and supervision of eight government agencies, headed by the National Center for Protected Areas (CNAP), an agency under CITMA. Quantifiable goals within CNAP's plans for the future of the national parks include covering 80% of the parks' acreage with trees. It also outlines past failures in implementation of goals, a frank and useful discussion in moving forward with the current plans for preservation of national protected areas amidst tourist development. By evaluating the results of the 2009-2013 phase, CNAP found that 79% of parks surveyed had a shortage of equipment, and almost all suffered a detrimental lack of

administration, and the number of inspectors was insufficient for the level of regulation enforcement expected from governmental agencies.²⁹⁴

Environmental Law 81 is Cuba's framework law for environmental management and defines CNAP's broader objectives as a marine-terrestrial system, where both coastal and land environments are administered by similar conservation and development plans.²⁹⁵ However, terrestrial areas of importance have traditionally been given more weight in conservation legislation, due to the high costs of managing marine areas and a lack of understanding of their ecosystems. There is a need for more expertise in the marine science of each of Cuba's marine protected areas (MPAs) especially when considering tourism development surrounding these environments. Within Law 81, Decree Law No. 201 for the National System of Protected Areas established both management categories and levels of classification for marine and terrestrial ecosystems, expanding the land and sea areas eligible for protection, as well as the mandate of the agencies responsible for each area. The first level of classification constitutes the core of SNAP, called "Protected Areas of National Significance," which hold regional or national importance in terms of conservation, uniqueness, complexity, or representation. "Protected Areas of Local Significance" are defined by their size, frequency, or level of conservation, which is deemed important to the surrounding local community but not of national importance. "Special Regions of Sustainable Development" are large regions with sensitive ecosystems of economic and social importance, making them a priority for cooperation to ensure sustainable development.²⁹⁶ Another highlight of Cuban environmental legislation came in 2000. Decree-Law 212 delimits the coastal zone, bans construction and demolition forty meters from the coastline, and regulates activity to ensure the sustainability of the coastlines and communities that live there.

MPAs in Cuba are protected areas of land and sea that have a marine-coastal component, including coastal wetlands, the submerged coastal zone up to 200 meters, and off-shore keys.²⁹⁷ Each area has been identified as having well-formed coral formations or species important to conservation or the economy. It is essential to understand the boundaries and definitions of each MPA as they are defined by differing levels of conservation, natural environment, and level of activity permitted within the protected area. Many MPAs have laws surrounding the type of fishing or watersport allowed, including recreational, commercial, traditional, catch-and-release, trawling, diving, snorkeling, water sports, and swimming areas.²⁹⁸ When recommending new private and sustainable enterprises that could be added to the local tourism economy, it is essential to abide by these regulations. CNAP outlines lofty conservation goals, including percentage quotas for protecting the Cuban insular shelf, coral reef areas, and each type of wetland, as well as protecting outstanding land and sea-scapes, contributing to the sustainable management of fisheries, and protecting the most outstanding geographical features and cultural values of Cuba's marine-coastal zone. Of the many MPAs which all have either national or local significance, the biodiversity value, size, and importance

of Jardines de la Reina, Cienaga de Zapata, Punta Francés, Guanahacabibes, Caimanes, and Buenavista national parks are often highlighted as priorities for conservation.²⁹⁹ Cuba has protected nearly 25 percent of its marine waters in MPAs, placing it among the top nations in the world.

Administration and enforcement within many MPAs has yet to catch up with the abounding number of regulations and guidelines established for their protection. As with the National Park System, there is an insufficient number of employees to handle the monitoring and evaluation of such complex ecosystems, as well as a lack of personnel to enforce each MPA's guidelines. CNAP has begun prioritizing drawing in international funding to fill these administrative gaps, given the high costs of development and management.³⁰⁰

BASAL is a United Nations-supported project in Cuba whose objective is to support the adaptation to climate change by contributing to sustainable socio-economic development. 6.3 million euros have been appropriated towards three agricultural provinces of Pinar del Río, Artemisa, and Camaguey to help mitigate the effects of climate change on agricultural production. Sustainable development of Cuba's agriculture is essential in creating linkages between the food production and food service industries in the tourist context, keeping money local for the benefit of Cuba and its people. BASAL is just one example of cooperation between Cuban environmental ministries and international organizations on climate change.

Many of Cuba's healthy natural spaces can be used as models for similar ecosystems across the world, highlighting the importance of cross-border cooperation and information-sharing about conservation. A Memorandum of Understanding was signed between NOAA, the US National Park System, and CNAP, creating the Sister Sanctuaries Program between the two countries.³⁰¹ This memorandum creates routes for communication of marine research and education materials to help preserve and manage some of each country's most significant ocean resources. The program also establishes sister-sanctuary relationships between Guanahacabibes, Dry Tortugas, and Banco de San Antonio in Cuba and Florida Keys, Biscayne National Park, and Flower Garden Banks in the United States, as they are linked through similar ecosystems and the flow of ocean currents.³⁰² Information sharing between coral reef managers and scientists will benefit the environments of both nations and help bring the two societies together through their shared waters.

Cuba's touristic development has not been without its challenges and mistakes. The popular tourist destination of Varadero replicates the model of large hotels on the beach seen throughout the Caribbean, with its consequent environmental and social impacts. As previously indicated, Cuba has one of the highest levels of all-inclusive resorts in the Caribbean (see Figure 5 on page 11). Perhaps Cuba's most iconic failure in environmental planning occurred in the late 1980s when a 12-mile causeway was constructed to link the mainland to Cayo Coco, one of a chain of islands in the Jardines del Rey archipelago that lies along Cuba's northern coast. The

region was a prime tourist attraction for its mangroves, sand dunes, birds and other wildlife and crystal waters. Planners envisioned construction of larger hotels and golf courses in Cayo Coco.

Unfortunately, by blocking circulation and tidal flow of the bay that the causeway bisected, mangroves began dying off, and with them, habitat for birds and other wildlife. Fish populations also suffered. The causeway disaster figured into efforts in the early 1990s to adopt new environmental laws.³⁰³ The causeway has since been retrofitted with cuts allowing water to circulate and the bay has recovered significantly.

2.4 Cuba's Natural Resources

The Cuban archipelago is formed by more than 1,600 islands, islets, and cays. Geologically, the islands are dominated by carbonate sedimentary rocks, constituting 66% of present rock formations. As a place close to sea level and historically dominated by sea transgressions and regressions, the island's geography is now defined by differing hydrological basins.³⁰⁴ The geology and geography of each basin affects the climate and biodiversity of the various ecosystems present on the island, and the preservation of these conditions must be prioritized in the context of tourism development. Within SNAP, there is a fascinating array of geodiversity, with distinct lithological formations from the Jurassic to the Holocene. The preservation of Cuba's national parks is valuable to the study of geology, as the parks contain relatively undisturbed records of ancient tectonic processes, organisms, and climates in the area, giving scientists a better understanding of these same factors today. A focus on geoconservation in protected areas will help create a more integrated approach to environmental preservation and management, as hydrological, biological, and geological processes are all inextricably interconnected.



Figure 13. A Health Stand of Elkhorn Coral (*Acropora Palmata*) in Southern Cuba Where Enormous Stands Remain Healthy. The Species is Now Considered 95 Percent Extinct in the Caribbean (D. Guggenheim)



Figure 14. A Tourist Photographs a Caribbean Reef Shark in Jardines de la Reina (D. Guggenheim)

The extent and quality of coral reefs in Cuba and its surrounding waters is internationally renowned. Partly due to the abrupt collapse of the Soviet Union in 1991 and the economic hardship that ensued during the Special Period in Cuba, agricultural policies on the island radically shifted. While the use of synthetic fertilizers in agriculture was contributing to the decline of coral reefs directly offshore elsewhere in the Caribbean, Cuba no longer had the Soviet

Union to subsidize their sugar production, and thus shifted to organic agricultural methods in order to lower costs and continue producing

on their own.³⁰⁵ Limitations on American tourism over the past fifty years, Cuba's emphasis on environmental protection, and a lack of coastal development have also helped maintain the quality and biodiversity of critical ecosystems throughout Cuba.

Jardines de La Reina, or “Gardens of the Queen” is an archipelago about fifty miles off the southern coast of Cuba, renowned for its beauty, biodiversity, and remarkable stretches of coral reefs dwelling with endangered species of plants, fish, reptiles, and marine mammals. The archipelago of mangrove keys and coral reefs is 75 miles long and covers about 2,640 square miles.³⁰⁶ In 2010, the government of Cuba designated 850 miles of this area as a national



Figure 15. A Young Mangrove Plant Stands in Front of a More Mature Mangrove Forest in Southern Cuba (D. Guggenheim)

park, and discussions considering its expansion are now underway.³⁰⁷ Jardines de la Reina receives fewer than 3,000 visitors per year.³⁰⁸ Its lack of human disturbance and strong protections as a Cuban National Park have created one of the last havens for Whale sharks, Caribbean Reef sharks, Giant Hammerheads, Blacktips, Silky sharks, and Nurse sharks. Commercial fishing is banned, except for Spiny lobsters, although a lack of administration within the park and enforcement of its borders has created issues with illegal fishing.³⁰⁹ (This is not limited to Jardines de la Reina. Illegal fishing by Cubans in protected areas is common, including in Punta Francés on Cuba’s Isle of Youth, which has many of the same restrictions as Jardines de la Reina, including restrictions on fishing, yet shows signs of overfishing.) Bound together by ocean currents, animal migrations, and similar natural conditions, Jardines de la Reina is interconnected to the Florida Keys, Mexico, and the Bahamas. However, these neighboring ecosystems do not maintain the same levels of floral and faunal biodiversity. Six species of sharks abundant in Jardines de la Reina are classified as vulnerable elsewhere in the Caribbean. Similarly, the archipelago is home to endangered fish, Loggerhead, Green, and Hawksbill turtles, plants, birds, iguanas, Queen conchs, American crocodiles, and many species of extremely fragile coral like the Elkhorn.³¹⁰ As one of the best preserved yet least studied coral reefs in the world, maintaining this ecosystem to study its successes may be the key to coral recovery and restoration elsewhere in the Caribbean.

Mangroves provide essential ecosystem services to the Caribbean and global ecosystems at large, including coastal protection, biodiversity conservation, habitats, spawning grounds, and siltation protection. In the Caribbean, mangrove swamps and their dense root forests enhance coral reef systems by providing a nursery for small and vulnerable species, trapping sediment that covers coral and causes bleaching, and stores carbon that would otherwise contribute to global warming.³¹¹ However, many hotel and tour companies in the region see mangrove swamps simply as impediments to the view of the water and access to beaches. Largely due to construction in and around these fragile habitats in areas with heavy tourism development, over 20% of global mangrove cover was lost between 1980 and 2005, and 42% of Caribbean mangroves have been destroyed in the past 25 years. It is estimated that mangroves around

the Caribbean Sea have experienced a 1% decrease per year since 1980. While these statistics are shocking and devastating for the region, Cuba's mangrove populations have not experienced the same fate. Cuba has the second largest area of mangroves in the world and actually increased its population between 1980 and 2005.

In Cuba, wetlands and mangrove swamps comprise 4% of the island's territory.³¹² Notable swamps include the Zapata Swamp, or Ciénaga de Zapata, the largest wetland in the Caribbean, and Lanier Swamp on Isla de Juventud. The peninsula of Zapata has been designated as a National Park and Biosphere Reserve. In pristine conditions, swamps like these contain vegetation that makes the ideal habitat for manatees, crocodiles, turtles, fish, and many endangered endemic species of both flora and fauna. Ciénaga de Zapata contains 900 plant species, 150 of which are endemic, 212 species of vertebrates, and 65 migratory bird species, all with a high endemism rate.³¹³ The fishing bat, manatee, and Dwarf Jutia of Zapata all reside in the swamp and are under threat of extinction. Much of the biodiversity in Cuba's swamps is due to the presence of mangroves, a key part of the swamp ecosystem. Ciénaga de Zapata and Lanier contain all four species of mangroves present in Cuba, constituting an independent ecoregion.³¹⁴ In terms of ecosystem services, mangroves in this region act as the principle buffer against saline intrusion into some of the island's largest freshwater aquifers. Threats to this region include drainage, agricultural expansion and pollution, and production of charcoal.

2.5 Cuba's Historic and Cultural Resources

Founded in 1519 and raised on the riches of sugar, Havana has hundreds of historical monuments as well as one of the world's largest and most diverse arrays of architectural treasures. Within its parameters can be seen a collection of neoclassical, baroque, art deco, and modernist buildings second to none in the Caribbean or elsewhere in the Americas outside of New York. In 1982 UNESCO named the city's colonial center a World Heritage Site; subsequently three other Cuban cities: Trinidad, Cienfuegos, and Camaguey have also been named. Today with mass tourism and wholesale redevelopment by foreigners on the horizon, uncertainty and anxiety abound about the future of Cuba's outstanding cultural heritage.



Figure 16. The Lighthouse at Cuba's Morro, Marking the Entrance to Havana Bay (D. Guggenheim)

The deterioration of Old Havana way preceded Fidel Castro's 1959 revolution. But it was a desperate need for tourism income after the Soviet subsidies ended in the early 1990s that spurred the government to empower Eusebio Leal, the historian of the city and a poet, as well as a member of the country's governing Council of State, to take over all planning, investment,

and construction inside the historic core. It allowed him to operate hotels, restaurants, and shops and to use the earnings to finance the Old City's restoration as a magnet for tourists, while also supporting housing, schools, and other community services for local residents. The effort to date has been highly impressive, with Old Havana's four major plazas restored along with 40 percent of its decrepit buildings that now typically support more than 300 commercial enterprises on the ground floors with housing above. Of the annual profits of more than \$40 million, about half have been reinvested in tourist projects and the rest divided between local housing and community projects and the central government.

The future of Old Havana is more uncertain. Its financial arm has now been taken over by the government, leaving Leal with only cultural functions. Although he still has strong moral authority, his health has been precarious. What will happen when he retires or dies is a major concern.



Figure 17. A Mid-20th Century Neon Sign Hangs in Old Havana (D. Guggenheim)

While Havana's colonial city enjoys protections, many of the important buildings from the late 19th and 20th centuries elsewhere in Havana and in other Cuban cities are highly vulnerable. Old Havana's sustainability model is not applied elsewhere in Havana, and only unevenly in the other historic centers down island. Many structures are deteriorated from decades of inadequate resources for upkeep—in central

Havana one or more collapses every day—and any government funds mainly go to propping up buildings to forestall accidents. While zoning laws and regulations exist for certain other prominent areas of the city, notably the Vedado suburb, there is little to no enforcement due to underfunding. Individual structures deemed landmarks by the national or local landmarks commissions are usually protected, but otherwise there is little control, and the process for acquiring and restoring important structures outside those landmark-designated is very murky. A proposal to strengthen enforcement provisions in a 1977 preservation law has not advanced.

Cuba in the past has had an excellent cadre of architects, preservationists, and urban planners. Today, that generation is mostly retired, and has not been replaced, as these professions suffer from lack of quality training and governmental support. As the law permitting self-employment does not extend to them, many of the best younger architects and urbanists have left the country to seek opportunities abroad.

Today there's a difference in thinking between the preservation and urban planning professionals and intellectuals in institutions such as Eusebio Leal's Old Havana office and

UNEAC (the writers and artists union) and officials in government ministries such as tourism and investment. The former are concerned that the latter may not fully appreciate the grave dangers to Cuba's heritage of cruise ships, foreign investment, and overdevelopment. They believe careful planning and sustainability practices are essential, and that in a country strapped for cash too much money too fast can be a much greater peril to the country's urban fabric than not having enough. Development booms, if not properly managed, can result in irreplaceable cultural losses that extend beyond razed buildings to extinguish an "ambiance of place," leaving an area of little interest to the visitors it was meant to attract.

The need for integrating the presence of cultural resources into sustainable development policies is essential throughout the Caribbean. However, while a recognition of the value of preservation continues to grow, the results throughout the region remain spotty. Continuing to raise awareness; improving participation of communities; training professionals in planning, management, and preservation; and strengthening accountability are all critical factors in protecting the region's priceless historical and architectural heritage.

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3 Opportunities and Challenges for Cuba

3.1 Cuba's Unique Opportunity

Following the revolution, Cuba chose a distinctly different path than the rest of the Caribbean. Until the “Special Period” in the 1990s when the Soviet Union’s withdrawal of financial support left the country in an economic crisis leading Cuba to turn to tourism to bolster the economy, Cuba’s tourism development was minimal, especially compared to the decades leading up to the revolution when US tourism was significant. While parts of Cuba have been developed intensively for tourism (e.g., Varadero, Cayo Coco), and Cuba has one of the highest rates of all-inclusive resorts, the country has never fully embraced the mass tourism model that has impacted much of the Caribbean. With tourism growing at record levels, Cuba is at a crossroads to determine the path of its tourism sector over the coming decades. Because post-revolution Cuba adopted tourism later and more slowly than other Caribbean nations, it has thus far managed to avoid many of the detrimental effects that tourism has had on other Caribbean nations. Two are of special note:

1. Cuba maintains a rich, diverse and distinctive culture and built environment that has largely avoided the “homogenization” of culture that other Caribbean nations have experienced. Visitors experience an authenticity of place and people rarely experienced elsewhere.
2. A dramatically slower pace of development, coupled with strong environmental laws, an extensive network of protected areas, and an ongoing commitment by the government to protect the environment has left Cuba with a wealth of biodiversity and healthy terrestrial and marine ecosystems. While it has been estimated that 50 percent of the Caribbean’s coral reefs have perished over the past 50 years, many of Cuba’s coral reefs remain remarkably healthy.

These factors and others have left Cuba a truly unique destination, far less vulnerable to the commodification that has affected many Caribbean destinations (see Section 1.2.1.4 on Page 27). Consequently, not only can Cuba avoid the intense pressure to compete on price (the “sun and sand” model), Cuba’s uniqueness affords it higher prices as many travelers – especially high-end travelers – are willing to pay a premium for an “authentic” experience. (Cuba also commands a premium among American travelers, most of whom have not been able or willing to visit the island until recently.)

Cuba now possesses a unique opportunity to learn from decades of experiences from around the Caribbean and construct a tourism economy that works in harmony with Cuba’s environment, culture and economy. Though much of this report has focused on the detrimental effects of tourism in the Caribbean, if implemented sustainably and responsibly, tourism can be

a key part of an overall economic strategy to benefit the lives of millions of Cubans. While the average income of a Cuban state employee is US \$25 per month, those employed in the private sector through *casas particulares*, *paladares*, or one of the many approved private-sector jobs in tourism have no official cap on their income.³¹⁵ The number of Cubans who registered as self-employed rose from 144,000 in 2009 to 535,000 in 2016, likely due to the greater economic opportunities provided by the nation's opening to the private sector.³¹⁶ And while the future of the Cuban private sector is uncertain (see Section 2.2.2 on Page 85), the growing community-based model of private homes and restaurants to support tourism helps keep more income in the visited community.

The tourist sector in Cuba is growing not only because of the international demand made by these conditions, but because the Cuban government is strategically and sustainably planning its expansion. The 1997 Cuban Economic Resolution spells out the necessity to develop hard-currency earning sectors of the economy, and a resolution passed in 1995 spells out the rules for foreign investment, attracting major foreign interest.³¹⁷ Since these laws were passed, tourism has gone from an incidental source of income to a major sector of the revitalized Cuban economy. Ten years ago, the sugar industry accounted for 70 to 75% of the income for balance payments, while the tourist sector accounted for only 6%. Today however, a quarter of the investments made in Cuba are in tourism, and the sector contributed 43% of balance payments in 2015.³¹⁸

The success of the Cuban tourist industry so far can be attributed to its strategic growth which uses and preserves existing cultural and environmental assets and has largely avoided the mass tourism model. However, it is easy to underestimate the economic pressures that the mass tourism model may have in the future, as evidenced in other parts of the Caribbean, and it is important to recognize that these pressures manifest themselves over decades. It therefore is essential that Cuban decisionmakers have access to the best decision-support tools to aid in evaluating different tourism development scenarios that incorporate economics, environmental and cultural impacts. Cuba's Law 81 of the Environment requires the use of environmental economics in decisionmaking, which includes assessing the economic value of the services provided by the natural environment. It is hoped that these tools will help Cuba better evaluate proposals for tourism development. The role of environmental economics is discussed further below in Section 3.4.1 on Page 116.

Many Caribbean islands suffer from seasonal variability in tourist arrivals because travel to the islands is largely based on North American and European demand for sunny weather during their wintertime. Cuba is better-able to avoid such pronounced seasonality in its tourism by marketing the abundant history, art, architecture, music, film, and UNESCO sites across the island, which are available all year round. A strong and diverse economy that has tourism as a major element, yet not a singular dependence on tourism, also aids in avoiding this seasonal

instability. The success of diversification is shown in a discussion of Costa Rica (Section 3.3.5 on Page 114 below) while the failure to diversify and its economic consequences can be seen throughout the Caribbean. Diversification within the tourist industry itself is also important, with the end goal being to reach as many parts of the island as possible with multiple goods and services available in each area. In this way, some areas do not grow exponentially while others are left behind.

Due in part to its socialist structure, Cuba has a well-educated workforce, and already has several educational centers to develop workers for the tourist sector. Twenty-two centers for education have been established that cater specifically to educating workers for the tourist industry and its management, with 16,000 graduates in 2015.³¹⁹ Tourism as its own sector will create a significant increase in jobs and income opportunities in the next decade for both Cuba's private and public sectors, with estimates predicting the creation of more than 10 billion in foreign exchange reserves by 2030.³²⁰ Additionally, the creation of a tourist economy that promotes linkages instead of leakage will also act to stimulate other parts of the economy. The sectors of agriculture, fisheries, cruise tourism, renewable energy, and ecotourism outlined in this report are all intrinsically important to the Cuban tourism industry, and thus can be engaged sustainably to promote mutual development.

3.2 International Investment

Foreign companies have been increasingly interested in investing in Cuban tourism since the 1994 creation of MINTUR and the 1995 Foreign Investment Act. By the end of 2000, one half of the country's hotel capacity was administered by seventeen international hotel chains. Greater foreign investment will be essential in getting the capital to get projects with expensive overhead costs, like developing new sustainable energy plants, off the ground. However, lessons from the Caribbean at large demonstrate the peril of foreign companies maintaining a large degree of control over tourism projects, eventually leading to a sector with a high degree of leakage. Cuba has approached foreign investment far more cautiously and maintains greater control as its hotels and resorts maintain partial or complete state control.

Cuba is more limited in its access to international markets than many Caribbean neighbors, and thus foreign investors, an impediment to development in Cuba. Yet like many times in the island's past, challenges have led to innovation born out of necessity. For example, the collapse of the Soviet Union in the nineties led to the end of shipments of subsidized fertilizer to Cuba, and thus the island had to rely on organic and self-sustaining agriculture. Today, the collapse of the Venezuelan economy, where Cuba receives most of its oil, is creating the necessity for Cuba to develop its own reliable sources of renewable energy. In a similar way, the lack of access to international markets enhances the need for Cuba to create linkages in the tourist sector and rely on domestic capacity.

The Brookings Institution outlined a number of economic advantages to engaging the Cuban private sector in sustainable development. In the short to medium-term, Cuba may benefit from an increase in FDI and exports, while decentralizing the management of State-owned enterprises (SOEs). Non-bank financial institutions could also be created, focusing on microcredit. By decentralizing economic activity and allowing microfinance loans, the average Cuban employee would be able to engage in private sector economic activity in tourism, simultaneously benefiting the industry and the lives of many low-income Cubans.³²¹ Engaging cooperatives is also an advantageous way to interact with the private sector and attract FDI at once, as the management structure of cooperative enterprises are rather attractive to foreign investors. Labour issues are taken care of in a cooperative, which promotes social responsibility towards the workers, community, and environment. Additionally, cooperatives will not lead to an extreme concentration of wealth, can operate without banks, and offer the potential for balanced, sustainable growth.³²²

3.3 Sector-by-Sector Opportunities

3.3.1 Agriculture

Agriculture is a fundamental part of the Cuban economy, with 6,770,345 hectares of agricultural land recorded in 2014.³²³ In 1959, the government undertook a major restructuring of the agricultural sector, making the state the proprietor of all agricultural land and setting a limit of 400 hectares of farmland to be held by any one person.³²⁴ The main uses of this land includes growing cane sugar, coffee, tobacco, rice, citrus fruits, and raising cattle. However, many of these main export crops require generous spatial distribution, meaning more land is used, and environmental risks increase. Despite its efforts, Cuba imports between 60 percent and 70 percent of the food it consumes at a cost of around \$2 billion (principally bulk cereals and grains such as rice, corn, soy, beans, powdered milk and chicken). It is estimated that imports may rise in 2018.³²⁵

Any sort of economic development and expansion of tourist services on this island is closely bound to the export of primary goods to fund the infrastructure needed, and thus the exploitation of environmental resources. Many of Cuba's top exports are agricultural. In 2015, \$378 million USD of raw sugar, \$213 million of rolled tobacco, \$196 million in wheat, and \$148 million in corn were produced by the domestic agricultural sector.³²⁶ In agricultural planning moving forward, it will be essential to integrate the experiences of the agricultural workers, advances in technology, and the distribution and location of agricultural fields with respect to the demands of industry, transportation, and the population.³²⁷

While the agricultural sector accounts for 10% of GDP today, it employs 20% of the working age population.³²⁸ Because of this, there is great opportunity for local employment and creating linkages between the burgeoning tourist economy and the agricultural sector in Cuba. With

more food needed as tourism takes off, there will be an increased demand for agricultural products. Elsewhere in the Caribbean, the explosion of tourism led to a large upsurge in agricultural imports (leakage), rather than a linkage between the local farming economy and the tourist-serving hotels, resorts, and restaurants. (For a complete discussion on leakage and linkage, please see Section 1.1.5 on Page 16.)

Tourism development in Cancún shows a high degree of leakage and pushed the state's historically strong agricultural sector to the side in favor of hotel and resort development. This case study (see Section 1.5.3.3, Page 59) can be seen as an example of what to avoid when jointly developing tourism and agricultural sectors. In the 1960's as international tourism took off, the Quintana Roo state of Mexico and its Barrier Island of Cancún became a target for strategic development as a tourist destination by the government of Mexico. Previously, Cancún was uninhabited and consisted of pristine beaches, jungle, mangroves, sand dunes, and the Mesoamerican coral reef, the largest barrier reef in the Western Hemisphere.

Tourism in Cancún grew more rapidly than the government of Mexico had estimated, and environmental regulations on building sizes, open space, and beach access were significantly relaxed to keep up with expansion and to capture more profit. An airport, shopping centers, resorts, hotels, and golf courses were built on the unstable coastal land. The government also built permanent residences across the water on the mainland for the workforce that was needed to staff the new tourist accommodations and services. The physical division between the hotel area and the workers' town has created a culturally- based stratification and many social issues. As the peso fell, Cancún went from a place of exclusive, low-volume, high-quality tourism, to a budget option for travelers worldwide, eventually becoming a popular spring break destination. Quintana Roo is now almost entirely dependent on tourism. The rise of all-inclusive resorts has led to the collapse of the local economy, as people do not need to venture off the resort property and patronize locally-owned restaurants and shops.

Additionally, foreign-owned hotels have started their own tour companies in the area, enhancing the high degree of leakage that is created through this model of mass tourism. The agricultural sector which once dominated the state has also been almost entirely wiped out to make room for a tourist industry in which native Mayans are unable to keep most of the massive profits that arise from the tourist areas in which they are employed. The case study of tourism in Cancún and the weakening of environmental legislation to allow it serves as a valuable lesson in avoiding this model in Cuba, especially given the environmental and cultural resources that Cuba possesses. The coastlines and surrounding marine areas of Cancún once held similar mangrove forests and coral reefs as Cuba has now. Despite being designated as a UNESCO World Heritage Site and biosphere reserve, 50% of mangroves in Cancún have been destroyed.³²⁹

However, alternative models of tourism are possible, and even with high numbers of yearly arrivals, Caribbean nations can avoid creating a leakage-prone economy run by foreign enterprises. A case study of the Rural Agricultural Development Authority's (RADA) work in Jamaica has proven that the local economy and farmers can adapt, and profit from, higher volume tourism, without sacrificing the environment. This case study is discussed in detail in Section 1.5.3.156).

Jamaica began its history with tourism in the same way as many Caribbean islands, with an explosion of arrivals around the 1960s and a tendency to overlook culturally and economically sustainable practices in favor of short-term growth. Recently however, Jamaica has been working to diversify its tourist offerings and create more linkages between the local economy and the tourist industry, creating the Master Plan for Sustainable Tourism Development in 2002. One of their main successes has been creating the Tourism Linkages Hub, whose objective is to increase the consumption of goods and services that can be competitively sourced locally. Resorts and hotels that cater to a foreign audience usually demand a wide variety of food and drink that are outside the production capacity of the local economy.

The Agro-Farmer's Tourism Market was created in 2013, a large farmer's market of locally sourced produce that helps meet the demands of the tourist industry with local goods, thus decreasing the amount of food items that need to be imported from abroad. There are now three markets in and around the Negril area that have seen great success so far, producing a combined \$28.5 million USD. The markets have provided a livelihood for 35 farmers who previously had nowhere to sell, and 70% of hotels have said they are now spending less than 10% of food expenditures on imported agricultural products. Sandals resorts in Jamaica even donate exotic seeds to local farmers, enabling them to produce goods that are demanded by the tourist industry yet not usually available locally, then buys most of their product. In order to assure the Agro-Farmer's market creates quality products that benefit both parties, management teams from Sandals hold quality control and marketing technique workshops with farmers. The market reduces leakage on the side of the local economy and lowers transportation costs for hotels and resorts.

Based on Cuba's historically strong agricultural centers and specialization in a number of key crops, there is a market ripe for cooperation and mutual benefit with the tourist industry. Working with key Cuban ministries, Agro-Farmer's markets could be set up in the eight regions already identified by the Cuban government as tourist "poles," efficiently serving higher-volume tourist areas.

In 2012, the first free and private farmers market (*organopónico*) to sell wholesale produce opened at the edge of Havana. Sales at this market are done in cash, and farmers and business owners exchange crops like garlic, cabbage, onions, squash, and papayas.³³⁰ Wholesale markets like this exist all over Latin America, but this is the first time they have shown up in Cuba. One

Cuban public-turned-private farmer at the market said he used to have to meet an annual production quota that required him to sell a quarter of his crop to the government at artificially low prices, but since Fidel Castro turned millions of acres of state land over to private farmers and cooperatives, there is now more of an incentive to work harder.³³¹

Market cooperatives like these, slowly emerging throughout the country, are providing an honest solution to the dangerous food shortages Cuba saw throughout the Special Period. To avoid repeating history, more free markets may be the answer, as wholesale produce is a necessity for both Cuban locals and the tourism industry. However, Juan Triana, an economist at the University of Havana, says that farmers still don't have access to a market for equipment and supplies, meaning some of their original shortage problems will continue.³³² Additionally, food prices are still high, and there are now reports that the rise in tourism is causing food shortages for locals. Richard Feinberg, a professor at the University of California San Diego, writes on the unanticipated consequences and distortions that arise from the rise in food demand that tourism brings. Feinberg claims that the private tourism industry is in direct competition with Cuban locals' supply of food, and that even basic staples are becoming unaffordable to regular Cubans.³³³ This is in part due to the surge in tourism that will only increase in the coming years, but it is also in part due to poor planning, as the island has the agricultural capacity to meet both the needs of its people and its tourists. However, until access to all markets are opened, it will be difficult to lower the government-set prices of food. In the meantime, however, more produce markets linking the tourism industry to private farms will increase agricultural output and provide the lower market prices.



Figure 18. Farmers Pick Organic Lettuce at Organoponico Vivero Alamar, a Large Cooperative Near Havana (D. Guggenheim)

The fact that Cuba imports 60 to 70 percent of its food has caused food prices to increase significantly.³³⁴ The private tourism industry is adjusting however, and *paladares* are increasingly connecting with private farmers to supply some of their ingredients, mostly fruit and vegetables at this time. There is growing acceptance for increasing privatization of the Cuban agriculture sector, especially using the cooperative model. Although traditional Cuban ideology stresses state-run enterprises as the most efficient and equitable, the conventional wisdom is increasingly embracing cooperatives and their productivity. However, there remain significant hurdles for cooperatives and *cuentapropistas* engaging directly with the private agricultural sector, including a lack of investment and the inability to run a wholesale market in a situation of scarcity and price controls.³³⁵ In terms of expanding agriculture sustainably to meet tourist demand, agro-ecology is as strong as ever in Cuba. The principles of organic

agriculture that began after the collapse of the Soviet Union (and a consequent significant drop in the use of fertilizers) are still used, and government-led research in the field of sustainable agriculture is strong.

Sustainable, wholesale produce markets may be an answer to the great demand for food tourism will continue to create on the island. By combining the output of all markets, since each will produce different crops based on their location and climate, pooling capacity could produce the quantity of agricultural goods demanded by the tourist sector. Relevant Cuban ministries could also be engaged in the quality assurance process of all food items, making them marketable to Cuban and foreign owned hotels in the region. To incentivize hotels and resorts to participate, Cuba could introduce tax relief legislation for hotels that buy a high quota of goods locally rather than importing from abroad. Pre-planning to establish these kinds of markets in Cuba would not only benefit the tourist industry by making fresh, quality and less-expensive produce available to them, but could also help guide the Cuban agricultural industry towards producing goods that meet the demands of the tourist industry before tourism explodes, lowering their overhead cost of adjusting to the market and changing crop production. The low costs involved with providing farmers with foreign seeds and conducting educational workshops would pay for themselves many times over in the long-run with the returns generated by an efficient and mutually beneficial market.

3.3.2 Fisheries

Along with agriculture, fishing is a vital part of the Cuban economy. The Cuban seafood industry supplies high-value products to both global and domestic markets. Under Soviet assistance, the industry used distant-water fleets that brought in large volumes of low-value seafood. Today however, the Cuban seafood industry relies more on nearshore, high-valued species, aquaculture, and a more decentralized operational structure.³³⁶ While Cuba displays some of the Caribbean's most intact ecosystems, 60% of its commercially valuable fish stocks are already in decline.³³⁷ One-third of Cuba's marine fishery stocks are overexploited, and one half are being exploited at maximum sustainable levels.³³⁸ The current fishing pressure could negatively impact profitable ecosystem services in Cuba, like dive tourism, recreational fishing, and commercial fishing. The Caribbean region as a whole has seen a recent and dramatic decline in numbers and health of reef fish, with overfishing and mass tourism driving the destruction.³³⁹ As discussed earlier (Section 1.3.2.2, Page 36) overfishing is a major factor in the demise of coral reefs.

Through the lens of tourist and industry development for Cuba's remote coastal communities, fishing plays a vital part in both income generation and food security, providing over 32,000 jobs to residents of coastal communities, and has the potential to become a profitable and sustainable option for the emerging private sector looking to meet the demands of a burgeoning tourist industry.³⁴⁰

Cuban fishery policy has changed dramatically over the past century, mirroring the dramatic changes in the Cuban government and society. Prior to the 1959 Cuban Revolution, most of Cuba's commercial fishing was undertaken by small, unpowered boats. After the Revolution, intense industrialization, efficiency, and nationalization of this sector were prioritized. Modern fleets, shipyards, and living quarters for fishermen were built, small businesses run by private fishermen were eliminated, and cooperatives were converted into state-controlled enterprises called *combinados*.³⁴¹ Cuba's intense industrialization of the fishery sector has created an efficient enterprise with high yields, yet the ability of the average Cuban to benefit from the sector's high performance has historically been limited by its complete nationalization. However, just as the sector adapted to the Revolution economy in 1959, it is now slowly beginning to accommodate the emergence of the private sector. In 2009 the Cuban Government began to authorize the sales of private catch to SOEs, creating a private fishing sector that is still inextricably tied to the public. However, these fishermen must buy their own vessels, supplies, and fuel, and receive no government subsidies. This system makes their profit margin low and the turn towards illegal fishing all too common, bolstering a seafood black market that has existed for years.³⁴² Cooperatives in non-agricultural sectors, including fisheries, were reauthorized in 2011, increasing the potential for private economic activity in commercial and sport fishing while still adhering to the principles of the Cuban Revolution.

The new ability for private Cuban fishermen to create cooperatives could aid the main goals of Cuban fisheries: sustainable tourist development, food security, economic growth, and resource stewardship.³⁴³ Policy surrounding Cuba's fisheries must incentivize the sustainable usage of fish stocks at grassroots levels, as ultimately a locally-owned industry that limits leakage to foreign enterprises must be led by the fishermen themselves. Devolving the management of resources to the fishing communities who are most dependent on the fisheries for their livelihoods creates incentives for better resource stewardship. Moving forward, Cuba could apply lessons from fishery cooperatives in other parts of the world, such as in Chilean coastal communities, where private business associations have resulted in both sustainable marine resource usage and socioeconomic benefits.

Compared to Cuba's system of fishery cooperatives, which is highly regulated by the state, coastal Chilean cooperatives proffer many more rights to the associations of fishermen themselves, creating both socioeconomic benefits and greater economic incentives for sustainable resource stewardship. With an efficient balance of public-private ownership,



Figure 19. A Cuban Commercial Fishing Vessel Off Cuba's Southern Coast (D. Guggenheim)

Chilean fishing cooperatives are granted, and renewed fishing rights based on their performance in key goals and resource management standards set by the national government.³⁴⁴ The government determines overarching biological and economic goals, as is the standard in Cuba, and has the right to manage and monitor each fishery. In contrast to the Cuban model however, Chilean fishing cooperatives secure time-ownership, exclusion, and price-setting rights, all which result in a more efficient and profitable market, and economic incentives for the fishermen to be responsible stewards of their own marine resources. The Chilean government grants cooperatives secure “ownership” rights of a defined marine area for periods of four years at a time that become up for renewal based on performance. Due to this secure right and the ability to exclude other businesses from fishing in their area, the fishermen themselves become invested in the future of the fishery, all stakeholders avoid the tragedy of the commons, and have incentives to ensure future sustainability. Enhanced sustainability actions like private environmental research and investment in regulation enforcement were reported after these rights were transferred.³⁴⁵ Additionally, the Chilean model allows private fishermen to determine the market price of their catch, whereas in Cuba this is state-regulated. With a fixed price on each species, there is little economic incentive for private fishermen to make their processes more efficient or sustainable.

Under relatively new laws in Cuba allowing private cooperatives in non-agricultural sectors, there is legal feasibility to establish this type of public-private cooperative that naturally supports sustainability on the island. Cuba also has the distinct advantage of an educated workforce and a wide range of extension programs at the university level in management and accounting, which would benefit private economic management in this type of cooperative.³⁴⁶

In terms of environmental protection, ending illegal fishing must also be of high priority in the development of the fisheries sector. With a lack of administration to adequately monitor the fishing activity across all of Cuba’s MPAs, local fishing communities must be engaged and incentivized to be the stewards of sustainability in their own communities. Without much punishment for going beyond catch limits, there is not much of an incentive for a fisherman not to limit the amount of fish, and thus profit, that is possible to obtain from the waters each day. In Jardines de la Reina National Park, it is estimated that over 300 private fishing boats are operating in or near the national park which have been nearly impossible to identify or intercept.³⁴⁷ However, the Cuban government has also taken significant steps to slow the effects of illegal fishing and stop it in the long-run, providing even more opportunity to engage the private sector in legal cooperatives.

In 2013, the government approved the use of cooperatives in a range of enterprises, including fishing. These new laws create the basis for creating private-public partnerships in the fishing sector to both enhance national food security and to meet tourist demand. Although many of Cuba’s commercial fish species are being exploited unsustainably, studies have also shown that

some species could be exploited at higher sustainable rates, like the turkey wing clam, mojarra sardine, deep-water snappers and groupers, yellowtail snappers, mackerels, and tunas.³⁴⁸ Because of the abundance of these marine populations, the Cuban fishery sector may be able to restructure the catch quotas of each species, while not sacrificing their overall biomass yield. A comprehensive analysis of each species harvested in the country's primary developing tourism areas could lead to the creation of fishing cooperatives where only the most abundant species are harvested in large yet sustainable numbers.

In addition to creating sustainable fishing cooperatives, many communities in Cuba would benefit from a move away from a singular reliance on fishing. Diversification of industry would strengthen the local economy, making them less dependent on the environment, which can be volatile, and reduce the stress on fish stocks to ensure healthy populations for generations to come. The case study of the Toledo District of Belize detailed earlier (Section 1.5.3.6, Page 71) represents a successful diversification of the economy; protecting the natural environment and raising incomes within the local community. The implications of this success could be applied to many communities that are geographically, environmentally, and socially similar to coastal communities in Cuba like Cocodrilo which lies at the southern tip of the Isle of Youth. (See discussion of Project "Red Alerta" in Section 3.4.1.1 on Page 118.) The Toledo District of Belize is the least developed part of the country. Like many coastal communities in Cuba, the district's capital of Punta Gorda has a low population, was historically subsistence-fishing based, and had very little US influence. The area also has a beautiful array of natural resources and high biodiversity, making it a draw for ecotourism. Current tourism in Punta Gorda is limited to around 1,000-2,000 arrivals a year, to whom small-scale local businesses provide kayaking, hiking, birding, and fishing ecotourism activities. The most promising industry however, has been catch-and-release sport fishing. The coast of Belize has historically had healthy populations of permit fish, tarpon, bonefish, and snook, although recently NGOs and fishermen in the area have reported declining fish stocks. These concerns led to the rise of popularity of commercial catch-and-release fishing trips. The annual value of the snook fishery in Belize is only \$6,000 USD. However, one, seven-day catch-and-release fishing trip brought the community back \$7,000 USD, kept the fish in the water to be caught and profited from again, and maintained the equilibrium of the ecosystem. The success of trips like these convinced the Government of Belize to create a 450 km² marine reserve in Port Honduras in 2000.

The combination of the inherent value in Cuba's ecosystems and their services and Cuba's unprecedented time of opening to private sector opportunities presents a unique chance to create sustainable fishery cooperatives. The main goals of this would be to achieve sustainable exploitation of Cuba's marine fisheries, to maintain the sector's workforce, and to engage the private sector in a profitable and sustainable manner. Although limited by heavy restrictions, private fisherman do operate in the waters of Cuba, and would most likely be eager to join a cooperative if it presents a more profitable opportunity. New state policies to expand

cooperative enterprises to non-agricultural sectors may present an opportunity to develop fishing cooperatives that both preserve natural marine resources and present profitable job opportunities for local fishermen.

In Cuban coastal communities like Cocodrilo, fishing is often the main source of income. However, overfishing remains a danger for any marine-based economy, and the Cuban coastline remains a priority for conservation in terms of valuable sport fish, seafood, and endangered species. Diversification away from commercial fishing towards catch-and-release sport fishing could present both jobs for local tour guides and a sustainable ecotourism opportunity in many Cuban coastal communities.

3.3.3 Cruise Tourism

From the perspective of economic leakage and environmental degradation, each type of tourism that exists in Cuba must be evaluated differently, as their impacts are not synonymous. In terms of the sheer number of passengers that cruise ships are able to bring to an area at once, cruise tourism has been a large contributor to the model of sun, sand, and sea mass tourism that exists in the Caribbean. The North American cruise industry is dominant in departures, while the Caribbean is the most preferred destination, accounting for 41.02% of all cruise travel.³⁴⁹ All cruise companies are foreign owned with vertically integrated services and amenities that attempt to keep passengers spending money on board, not in their ports of call. Experiences on shore in the Caribbean are often booked through the cruise company, not a locally-owned tour company. This high degree of leakage is exacerbated by the fact that the ships do not have a significant impact on local employment. Almost 50% of cruises worldwide operate in the Caribbean, but only 7% of cruise ship employees are Caribbean nationals. The variety of cruise ship companies that now exist and the cultural homogenization that has been forced on the Caribbean islands through mass tourism continually lowers the profits that host cities actually receive from these ships. Due to the low-income cruise tourism provides, Caribbean nations have started to put a head tax on every passenger that arrives in port. However, as all islands offer the same attractions under the lense of sun, sand, and sea tourism and are not marketed as unique cultural destinations, cruise ship companies can simply pick up and move to a different island if they think the head tax is too much. In the early 1990s, the English-speaking islands of the Caribbean attempted to band together and to create a minimum head tax for the region as a whole, but the cruise industry threatened to abandon islands that approved the minimum, and the effort was defeated. Thus, islands are constantly having to lower their prices and taxes in order to stay competitive and keep ships coming to port. Cruise tourism is often emphasized by politicians because of the vast numbers of people it brings to port, but land-based tourism is much more profitable, even with fewer arrivals. The average length of stay for a land-based tourist is 7.3 nights in the Caribbean, spending thirteen times more time in country than cruise tourists.³⁵⁰

Just as the advent of long-haul jet flights created the massive surge of worldwide tourism in the 1950s- 1960s, the continually lowering prices of cruise ship tours are bringing more people who spend less to the Caribbean each year. As the socioeconomic range of travelers expands, all-inclusive cruise packages that limit spending locally are gaining in popularity. Additionally, there has been a recent rise in cruise companies buying their own private islands in the Caribbean, thus giving nothing to the local economy. Currently Disney, Royal Caribbean, Norwegian, Princess, and Holland America Cruise Lines have their own islands off of which they provide private tours and amenities.³⁵¹

Environmentally, the immense affects cruise ships have on the ecosystems they depart from and sail through are often overlooked. By registering under a “flag of convenience,” or a country that has few environmental regulations, cruise companies often escape the mandate for environmentally friendly practices that most land-based tourist companies must abide by. For this reason, many cruise companies are registered in The Bahamas, Panama, or Liberia.³⁵² Additionally, the heavy fuel oil used to power cruise ships use would have to be disposed of as hazardous waste on land. This fuel contains 3,500 times more sulfur than diesel used for cars, and does not use exhaust abatement technology or particulate filter that is standard on passenger cars. Royal Caribbean Cruise Line’s largest ship, Harmony of the Seas, has 6,780 passengers and burns through 66,000 gallons a day of highly polluting diesel.³⁵³ German pollution analyst Axel Friedrich estimates that a single large cruise ship will emit over five tons of nitric oxide emissions a day, a gas that is key to the formations of smog, acid rain, ultrafine particles, and ground-level ozone.³⁵⁴ Construction for the infrastructure required to receive massive cruise ships takes place on the most fragile part of Caribbean ecosystems, the coastlines.

3.3.4 Renewable Energy

We present a discussion of renewable energy in the context of tourism given that with increasing tourism comes increasing energy demands. A move towards renewable energy is not only economically and environmentally beneficial, but a necessity for Cuba’s energy security. 82% of Cuba’s energy is produced by burning imported oil. Much of this, an average of 98,000 heavily subsidized barrels a day to be exact, were imported from Venezuela from 2005-2015.³⁵⁵ With the current political and economic chaos in Venezuela, the future of Cuba’s oil reliance is uncertain. Political instability in Venezuela could create energy shortages at any time, driving fuel and electricity prices up even further. The emerging private tourism sector will also create a greater demand for energy, especially as *casas particulares* become more abundant each year. Residential power usage saw a 60.5% increase from 2005 to 2015, while state sector power usage only increased by 9.6%, showing that this shift in the tourist industry is well in motion, and their energy needs are growing.³⁵⁶

With abundant natural resources, Cuba's future in renewable energy shows great promise. Like many islands in the Caribbean, Cuba has abundant sunshine, with an average solar irradiance of 5.4 kWh/m²/day, classifying it above "good" in terms of solar energy production potential. The island also receives an average wind speed of 5.7m/s, with even higher speeds on most of Cuba's coastlines.³⁵⁷ Most promising, Cuba's government has stated its commitment to investing in the renewable energy sector through both public and private projects, announcing plans to produce 24% of its energy with renewables by 2030. In December of 2016, President Raúl Castro issued a decree creating seven working groups to implement a fifteen-year alternative energy plan.³⁵⁸ However, this goal would take US \$3.5 billion in capital investment to achieve. As Cuba continues to expand tourism and all associated sectors, the demand for energy will grow. One need not look outside Cuba to find case studies of successful renewable energy projects, as the technology is already available and working in many parts of the island, namely the Isle of Youth and Granma Province. However, Cuba still only produces 4% of its energy with renewables. Moving forward, Cuba can look at its own domestic successes and simply expand the usage of these technologies across the island.

The generation of renewable energy in Cuba is a strategic priority for and part of the government's Cuban Green Energy Development Program. The island's success in biomass and wind energy plants show that these commitments go beyond official documents and promises. The eight government-designated zones for tourist development on the main island of Cuba may be optimal locations for renewable production to assure availability of alternative energy in close proximity to higher-energy usage areas. Cuba has the technical expertise, skilled workforce, and natural resources to become a leader in renewable energy. The main roadblock now is obtaining the investment to get the construction of major renewable energy infrastructure underway.

Currently, most of Cuba's renewable energy is biofuel, with the largest portion being derived from sugarcane bagasse, the dry and pulpy residue leftover after extracting the juice from sugarcane. The sugar industry provides 81% of the island's renewable energy, constituting 3.5% of the national energy matrix.³⁵⁹ With a historical basis in sugarcane production, Cuba has a distinct advantage in technical training and a deep knowledge of the industry in deriving this plant into its many uses, including electricity, alcohol, animal feed, and bioproducts.³⁶⁰ Due to its high calorific value, the biofuel derived from sugar can largely replace fossil fuels, while also burning much cleaner.

AZCUBA Group, a leading sugarcane production and derivation company, released a report on their plans to produce sugarcane biofuel in twenty-five plants around the island. Currently, 468 MW of capacity are installed, although they expect 950 MW by 2030. Part of the energy produced will run the plants, while the rest is to be sold to the National Electrical Union, in hopes of significantly cutting down on fuel import costs. Any fuel surplus is to be sold to the

Domestic Power Union.³⁶¹ The AZCUBA projects are part of Cuba's Portfolio for Investment Opportunities Open to Foreign Investment under the Cuban Law of Foreign Investment.

The Isle of Youth presents a prime example of Cuba's strong technical knowledge in environmental projects and the ability to make the switch to renewables. A large island off the south coast of the Cuban mainland, Isla de Juventud has seen success in solar, wind, and biomass energy projects. The remote island hosts a national park and marine protected area is already being called on to serve as a model in renewable energy generation for the rest of the Latin America and the Caribbean. On the south coast of the Isle of Youth is a remote fishing community called Cocodrilo that hosts around 230 residents and 80 houses. With the installation of a new biomass plant that gasifies forest residues to create energy, a medical office, bakery, all of the town's inhabitants, and the potable water supply system are guaranteed 24-hour a day access to electricity.³⁶² This technology saves eighteen tons of diesel fuel annually. Additionally, a hurricane-resistant wind park and the Isle's first solar farm opened in 2013, saving US \$800 a day from solar energy alone.³⁶³ Isle of Youth's renewable energy projects have paid for themselves in under ten years, created jobs, use existing and replaceable natural resources, have helped move the nation away from burning harmful crude oil, and reduced greenhouse gas emissions.

The Granma Province of Cuba displays a similar inclination towards renewable energy, hoping to increase the province's contribution to the national energy grid six-fold by 2030. Granma's first photovoltaic park is now operational, using Chinese technology but mostly domestically-made physical components.³⁶⁴ Three other solar parks are now under construction, which are together projected to save 21,000 tons of fossil fuels per year. With all three photovoltaic parks in operation, Granma Province could become fully self-sufficient. These three sites are designed to contribute to the national grid but could also become independent on a moment's notice in case of meteorological or technological disruption.

Wind and hydro-power capacity are also being explored and are in the early stages of development, utilizing the province's many rivers and windy coastlines. According to Antonio Baró, head of the Photovoltaic Parks Installation Group, Granma Province has the highest levels of solar radiation in Cuba.³⁶⁵ Baró expresses his desire for Granma Province to become a "national example" in the utilization of renewable energy, sharing technical and logistical expertise with the many parts of the island that still rely upon burning crude oil for energy. With over 200 energy projects in the works, a considerable amount of funding is needed. Some of this will be covered by the Cuban government, yet the province is also looking for US \$9 million in foreign investment.³⁶⁶ As is the case with many renewable energy projects around the world, the technology exists, it is only the funding that often remains inaccessible.

Thinking farther ahead, once Cuba has developed domestic alternative energy infrastructure, the broad framework of South-South cooperation may aid in distributing Cuba's expertise

across the region.³⁶⁷ In terms of renewable energy, South-South flows of expertise, knowledge, technology transfers, and foreign direct investment are ideal for speeding the rate of sustainable development across the region. Within Latin America, Guatemala, Honduras, Bolivia, and Venezuela have sufficient biomass reserves for the type of biofuel generation Cuba practices, and could benefit from the country's expertise and successes.³⁶⁸

3.3.5 Ecotourism

In contrast to the vicious cycle of environmental degradation inherent in the mass tourism model, ecotourism can accomplish the opposite. Ecotourism is defined as tourism that advances or sustains the geographical character of a place's environment, heritage, aesthetics, culture, and well-being of its residents. This type of travel leads to the management of resources so that economic and social needs are fulfilled while maintaining cultural integrity, essential ecological processes, and biodiversity.³⁶⁹ Costa Rica may be the most well-known example of a country whose people and environment have greatly benefited from ecotourism (see Costa Rica case study in Section 1.5.3.4 on Page 63). In Monteverde, an interest in the natural attractions of the cloud forest led to the creation of sustainable tourist activities, like guided hikes and a new series of hanging bridges to allow people to walk above the cloud forest without disturbing its ecosystem. The profits from these new attractions were used to fund biological research and training in sustainable development for locals and researchers working in the area. The combination of enhanced knowledge and new, sustainable tourist activities led to both a better understanding of the importance of the area's resources and added value to the tourist sector, attracting high-value, low-impact tourism.

Ecotourism is the number one foreign currency earner in Costa Rica and makes up 4.9% of GDP.³⁷⁰ While Costa Rica is internationally renowned for its ecotourism, the tourist sector still does not dominate the nation's GDP. The Central American country has both developed its sustainable tourist sector and diversified its economy, leading to strong and stable economic growth; 4.6% in 2016.³⁷¹ Costa Rica has a strong export sector in bananas, coffee, sugar, beef, and high-value medical devices. The lack of a singular reliance on tourism in Costa Rica gives the country's domestic tourism sector more sovereignty than the mass tourism models of the Caribbean, as a diversified economy and marketing of unique environmental and cultural attractions eliminates the need to constantly lower prices in order to stay competitive, as is the case with many Caribbean islands. Like in Cuba, environmental protection had not always been a priority in Costa Rica. Before the implementation of environmental legislation in the early seventies, deforestation was a major environmental problem and an impending drag on the national economy. With a gradual shift in government policies however, Costa Rica improved its forest cover from 26 to 52%, made a healthy environment a constitutional right for all of its citizens, established 27 national parks, 58 wildlife refuges, 15 wetland areas, 11 forest reserves, and 8 biological reserves, covering 25% of the country's territory under environmental protection laws.³⁷² The surge of Costa Rican ecotourism was largely directed by government

policies that incentivized the participation of individuals, communities, and businesses; a model favorable for adaptation to Cuba's governmental structure. In 1996, the government of Costa Rica created the Forestry Fund and a program that provided financial incentives for environmental services- Pago por Servicios Ambientales, or PSA. The program originally paid US \$120 for every hectare of forest conserved.³⁷³ As of 2011, US \$200 million has been paid to individuals as well as indigenous and rural communities, funded by a tax on fossil fuels.³⁷⁴

In order to avoid "greenwashing," or the practice of labelling a service or product as environmentally friendly without any oversight, the Costa Rica Tourism Board created the Certification for Sustainable Tourism (CST) program, which the World Tourism Organization called "a model template for sustainable tourism certification."³⁷⁵ The Costa Rican system of sustainability certification is rigorous on the end of the hotels and certification programs, yet easy for customers to understand and thus base their decisions upon. All lodging is certified on a scale from one to five, with five being the highest sustainability rating once a plethora of criteria are averaged. With Cuba's preference for heavy regulation and research into environmental issues, Costa Rica's model of certification should be considered.

In terms of potential for the development of a strong ecotourism sector, Cuba exhibits many of the same advantages as Costa Rica. This includes abundant natural beauty and biodiversity, stability, close proximity to the US, an educated population, UNESCO World Heritage Sites, national parks, bio-reserves, marine protected areas, and progressive environmental policies. Cuba has 10 UNESCO World Heritage Sites, 275 National Monuments, and 14 National Parks. There is a strong government role in planning, policies, investments, and operations, creating streamlining and efficiency, yet also an emerging and dynamic private sector of *casas particulares* and *paladares* catering to tourists.³⁷⁶ Additionally, an increasing number of travelers are "high value" tourists who are looking for authenticity, environmental and social best practices, and more engagement with local people, all of which Cuba can deliver.³⁷⁷

With Cuba's high number of regulations in most sectors, there is also an advantage in regulating ecotourism, assuring best practices, and avoiding greenwashing. Old Havana could be assessed under international sustainability criteria like the Global Sustainable Tourism Council (GSTC), while all new tourist construction could be required to follow the GSTC's guidelines. Additionally, Cuba could use its already strong scientific research capacity to assess and measure economic, social, and environmental impacts of tourist development each year, adjusting yearly goals according to the results.³⁷⁸

Cuba had an estimated four million visitors in 2016, with most concentrated in Havana, Varadero, Trinidad, and Pinar del Río. Day trips from major destinations for ecotourism are common, but more remote areas require travel out of major population centers. Agencia de Viajes Ecotur S.A. is the government-run travel agency that arranges ecotourism excursions for foreign visitors throughout the island. In many areas, including Viñales or Playa Girón, hotel

offerings are limited and home stays in *casas particulares* are common and often preferred by visitors. In more remote areas, *casas particulares* are the only choice. Casa owners pay a tax to the central government, but the majority of monies received remain within the visited community, minimizing leakage as is common in the resort model.

Ecotourism can therefore play an important role in helping the empowerment and resilience of local communities, giving them additional economic control over their lives, a process Cuba's government is slowly recognizing. Such an approach stands in stark contrast to the powerful pressures pushing capital-intensive projects versus more decentralized, community-controlled development³⁷⁹

While Cuba's protected areas lack critical resources to support enforcement and management (see for example, Section 2.3.1, Page 87), Cuba has been slow to adopt park fees which are common and broadly accepted in countries throughout the world. A well-implemented park fee system could represent an important income stream to improve the infrastructure, access and ecosystem health of its natural areas.

As ecotourism expands in Cuba, there is a growing need to train ecotourism guides and divemasters in best practices. As such a large proportion of a guide's income is dependent upon tips, guides are often reluctant to restrict the activities of visitors for fear of losing tips. For example, the authors have observed guides allowing visitors to interact with wildlife (touching, holding, etc.) in ways that would be strongly discouraged elsewhere. They have also been observed capturing and preparing fish and lobster for visitors they obtained from protected areas (including endangered grouper species).

3.4 New Approaches to Advance Cuba's Sustainable Tourism Future

3.4.1 Assessing Sustainable Alternatives: The Role of Environmental Economics in Cuba

Environmental economics seeks to measure the environmental impacts or costs of economic decisions, helping to address the shortfalls of policies based on traditional economics that place little or no value on the health of natural ecosystems. It has been argued that many poor decisions regarding development to the detriment of natural ecosystems have been made over the past century because the economic analysis failed to consider the value of the environment.

The use of environmental economics in decisionmaking is mandated by Cuban law. Law 81 of the environment states: "*The Cuban Ministry of Science, Technology and the Environment (CITMA) in coordination with other agencies shall promote economic evaluation of biological diversity and provide for economic and social incentives for conservation and sustainable use of biodiversity.*" Due primarily to a lack of capacity (it is estimated that Cuba has only 5 or 6 environmental economists) Cuba has not fulfilled all its obligations under Law 81.

Ocean Doctor, in collaboration with Cuba's National Center for Protected Areas (CNAP), is pioneering Cuba's adoption of the principles of economic valuation of natural ecosystems and its application for national and local natural resource and environmental planning. This effort will help Cuba address its heretofore unfulfilled legal mandate.

Robust economic valuation of Cuba's natural resources, in combination with strong community engagement, will be essential to ensure the long-term protection of Cuba's ecosystems. Once completed, environmental decisionmaking in Cuba will have the benefit of a detailed economic valuation of its natural ecosystems, informing decisionmaking about their use or conservation.

Such tools are especially important in assessing different scenarios for tourism development (e.g., all-inclusive resorts versus community-based ecotourism), considering the economic value of the environment and any economic losses associated with different tourism scenarios.

The project initially focuses on Cuba's Canarreos Archipelago (Figure 20), which lies off Cuba's southwestern coast and includes the Isle of Youth, Cuba's (*Isla de la Juventud*) – the seventh largest island in the Caribbean – and Cayo Largo del Sur. Canarreos is a biologically important complex of more than 300 small islands, islets and keys, stretching nearly the same linear distance as the Florida Keys, with Isle of Youth being the largest in size with a population of nearly 100,000 people. The Isle of Youth has been identified as a priority for economic development by the Cuban government.



Figure 20. Cuba's Canarreos Archipelago (Archipiélago de Canarreos)

The principal objective of the regional-level effort is to apply economic valuation methodology to assess different development and management scenarios in Cuba's Canarreos archipelago and value their coastal ecosystem services and possible short-term and long-term benefits

under new socioeconomic alternatives for local communities. The team is working closely with World Resources Institute to apply its “Coastal Capital”³⁸⁰ methodology for the first time in Cuba in a region considered to be of special importance, both environmentally and socioeconomically. The Coastal Capital methodology has been applied at a national and subnational levels in five Caribbean countries: Trinidad and Tobago, St. Lucia, Belize, the Dominican Republic and Jamaica.

3.4.1.1 Assessing Small-Scale, Community-Based Tourism: Project “Red Alerta”

Developing economic alternatives for Cuban coastal communities is a means to both reduce fishing pressure and improve local livelihoods. Informed by the economic valuation work discussed above and drawing from ideas from residents of the community of Cocodrilo, fishing communities, the environmental economics project discussed above is also focused on Cocodrilo’s Project “Red Alerta,”³⁸¹ a coral reef monitoring, community education and ecotourism project.

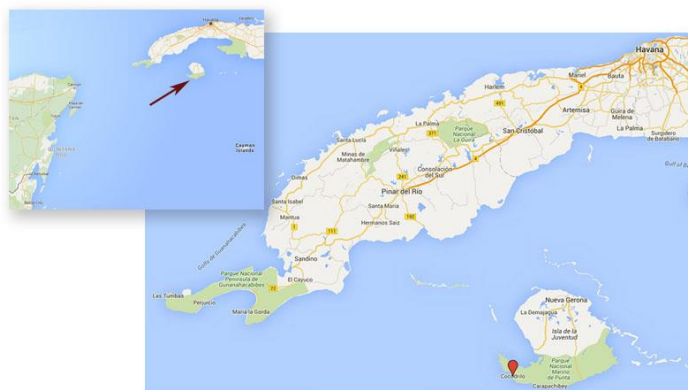


Figure 21. Location of the community of Cocodrilo, on the southern edge of Cuba's Isle of Youth (*Isla de la Juventud*), the Caribbean's seventh-largest island



Figure 22. A sculpture adorns the Cocodrilo waterfront (D.Guggenheim)

Cocodrilo is a small village of fewer than 400 people on the western side of the Isle of Youth, near the Punta Frances Marine Protected Area (PFMPA). Immigrants from the Cayman Islands established this community a century ago and fishing has always been the foremost traditional activity and principal source of income. Until recently, there has been only limited tourism visitation in the area. There is a high rate of unemployment (40-50%) and lack of job opportunities, especially for women.

The PFMPA covers more than 4,100 hectares of land and coastal waters. Cocodrilo is the only human settlement within the *South of the Island Protected Area* (terrestrial protected area) and is located only 18 km from PFMPA. PFMPA features shallow and deep coral reefs near the insular shelf break, which offer spawning aggregation areas for important commercial species, including grouper. The area is also home to abundant mangrove forests and seagrass beds that offer important nursery and feeding habitat for fish, invertebrates, marine turtles, manatees, and saltwater crocodiles. All fishing, with the exception of lobster, is prohibited within the PFMPA. However, illegal fishing is prevalent both by fishing co-ops and private individuals.

Ocean Doctor and others in the scientific community have observed a striking absence of large fish (including grouper, snapper and sharks) and the growing presence of macroalgae overgrowth in some of the corals around Punta Frances.

In 1976, most tourism in the area was related to scuba diving. However, in 1996 large cruise ships began to visit area beaches and by 2006 were bringing more than 400 tourists per week. In the last decade, diving inside PFMPA has diminished, possibly due to reduced fish sightings and a lack of adequate diving facilities and maintenance support. Many mooring buoys have been lost and never replaced; dive boats are old and slow and the local hotel facilities and services are mediocre.

PFMPA is often considered a “paper park” mainly due to the lack of a enforcement in the area. The governmental agency responsible for its management, the National Enterprise for the Protection of Flora and Fauna (ENPFF), maintains a primitive cabin that lacks water, power or any boats. Salaries for the site managers are roughly USD \$10 per month and they depend upon occasional cruise ships and divers that visit the area and bring them food, ice and drinking water.



The Cocodrilo community has been excluded from PFMPA since the area was established as protected. Given the history, it not surprising that Cocodrilo residents have showed little interest in protection efforts, though a number of residents do understand that its success will bring economic alternatives that

could improve their livelihoods. Since 2015, Ocean Doctor has been working with Cocodrilo community leaders to explore ways to leverage spillover economic benefits to community members from sustainable tourism activities in PFMPA.

Project “Red Alerta,” integrates education, science and sustainable alternative for income, especially ecotourism, while raising awareness and helping ensure the ongoing protection of the PFMPA.

A comprehensive environmental education program is being established in the community to teach community members about environmental issues and protection, coral reef ecosystems, their importance and threats, and provide training in monitoring methodologies.



Figure 23. A new sign states, “We Protect Our Coastal Marine Biodiversity - Project Red Alerta”

As the community gains familiarity with its coral reef ecosystems and identification of corals and fish, they are gaining key skills that can be used to educate tourists, bringing the community one step closer to developing a strong, sustainable ecotourism operation. Cocodrilo residents are starting to benefit from tourism, since their first local bed and breakfast was approved in December 2015.³⁸²

The Red Alerta program has been supported by educational linkages to young students to help foster a growing environmental awareness in every



Figure 24. An environmental education exchange between students from Clearwater, Florida and Cocodrilo, organized by Ocean Doctor



Figure 25. A Cocodrilo student participates in a beach cleanup, removing trash from the coral reef

member of the community. The education initiative is not simply focused on general environmental education, but on the specifics of the community in parallel with the evolution of the project, including the community's economic dependence on its natural environment and the role of sustainable ecotourism.

In this way, Cocodrilo is working toward a future that is both environmentally- and economically-sustainable, with strong financial incentives to protect its local ecosystems, including fish populations and coral reefs, for the benefit of ecotourism. The economic analysis will quantify such benefits and help guide the community's decisionmaking.

Ultimately, Cocodrilo could serve as a model of small-scale, sustainable tourism that could be replicated throughout Cuba.

3.4.2 Synergies: Solutions to Advance Both Environmental Sustainability and Historic Preservation

Among other impacts, this report has included special focus on the impacts of tourism on the natural environment and the built environment, including historic preservation. Given Cuba's vulnerability to climate change, sea level rise and hurricanes, protection of coastal areas has become a priority and is especially important to the tourism sector.

As discussed in Section 1.3.2.2 on Page 36, a study by World Resources Institute showed that in Belize the value of coral reefs and mangroves to shoreline protection exceeded the value of fishing and tourism combined.³⁸³ A 2014 meta study indicates that coral reefs reduce wave

energy by an average of 97 percent worldwide.³⁸⁴ Mangroves play a similarly important role in shoreline protection.

Construction of artificial wave defenses, such as seawalls, berms and other structures, not only can have adverse environmental impacts, but can also change the historic configuration and appearance of a coastal region, permanently altering the architectural heritage. Healthy coral reefs and mangroves can coastal areas, minimizing or eliminating the need for artificial structures. Further, it is estimated that restoring coral reefs is less expensive than constructing artificial wave defenses by a factor of 15.³⁸⁵

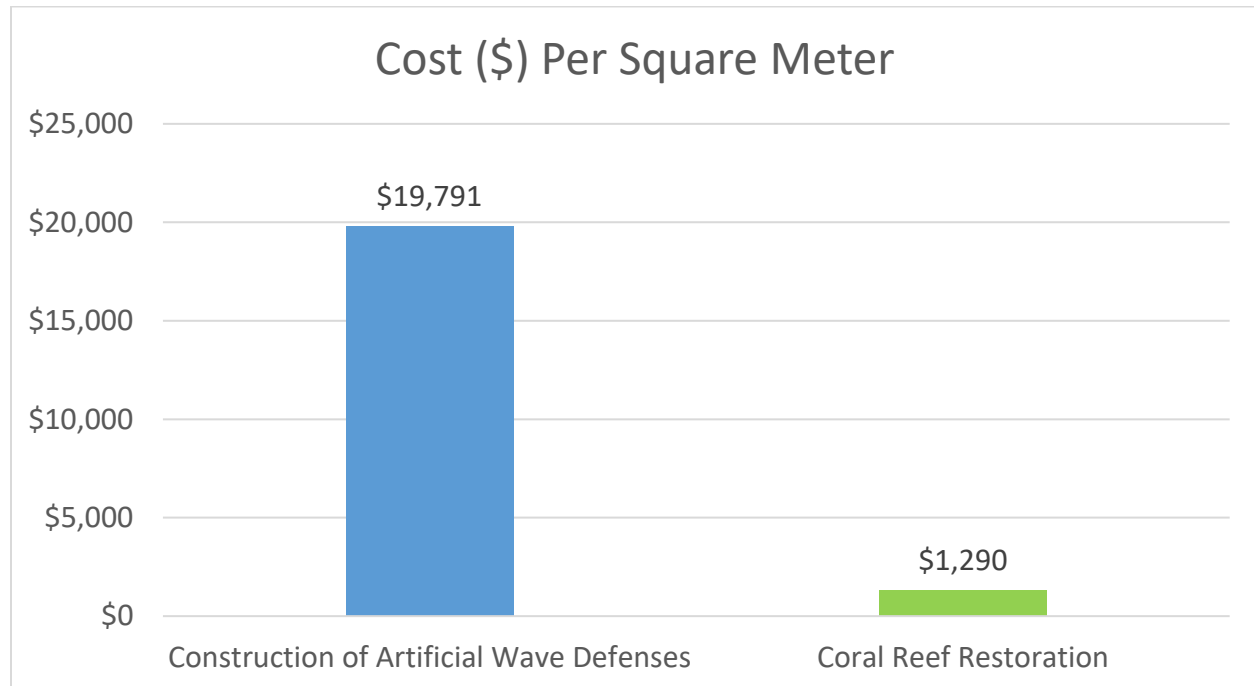


Figure 26. Cost Comparison of Constructing Artificial Wave Defenses vs. Coral Reef Restoration (Source: Ferrario, F. et al. 2014.³⁸⁶)

3.4.3 Small-Scale Projects and NGO Partnerships

Small-scale tourism development in Cuba is less reliant on large investment and control by multinational corporations. A number of U.S. non-governmental organizations (NGOs) rely on small-scale projects to advance goals and serve as a proof of concept for what might become a larger, more formal project. Such efforts have the advantage of fostering innovation, agility, and producing results quickly. With focus on communities, such small-scale initiatives could play an important role in advancing innovation in small-scale tourism while connecting back to larger efforts of the central government.

3.4.4 Sustainability: A New Cuban Export?

Today, Cuba's principal source of revenue is the export of healthcare services. Physicians, nurses, and healthcare technicians are dispatched to countries around the world, including Venezuela and Brazil. Cuba is expanding its professional services to include biotechnology and other technical fields. Cuba could become an ideal location for healthcare organizations, biotechnology, and pharmaceuticals.³⁸⁷ In 2017, Jose Martí Airport began displaying advertisements for medical tourism to Cuba.

Given Cuba's well-educated population, the caliber of its scientific community, the strength of its environmental laws and the fact that for more than half a century the country did not follow in the footsteps of its Caribbean neighbors, Cuba is uniquely positioned to develop a

path of sustainability that could become a regional or global center of excellence, attracting professionals from around the world to experience a living laboratory and learn from a unique new model of sustainability. In a world of increasing urgency to balance environment and economy, it is foreseeable that Cuba could export its sustainability services as it currently exports its healthcare services. Such would be a welcome new chapter for Cuba, whose sustainable path over decades has yielded exceptional opportunities to establish itself as a green jewel in the Caribbean that can help lead the way toward a sustainable future for all of us.



Figure 27. A Banner in Jose Martí Airport Advertises "Health Tourism" in Cuba, Proclaiming, "Cuba: A Health Destination for All" (D. Guggenheim)



Figure 28. A Pair of Frigate Birds Greet the Morning Sun Over Cuba's Gulf of Ana María (D. Guggenheim)

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³⁸⁶ Ferrario, F. et al. 2014. The Effectiveness of Coral Reefs for Coastal Hazard Risk Reduction and Adaptation. Nature Communications Do: 10.1038/ncomms4794

³⁸⁷ Dominguez, Jorge I. "What You Might Not Know About the Cuban Economy." Harvard Business Review, August 17, 2015. <https://hbr.org/2015/08/what-you-might-not-know-about-the-cuban-economy>.

4 APPENDIX: Additional Resources

4.1 Additional Resources & Publications: Alternatives to Mass Tourism

4.1.1 Websites

4.1.1.1 Pro Poor Tourism Website Library Reference Links

Link: <http://www.propoortourism.info/Library.html>

Pro Poor tourism is defined as “...means to improve the local economy for local people. It enhances the linkages between tourism businesses and poor people, so that poverty is reduced and *poor* people are able to participate more effectively in tourism development.”³⁸⁸ This page of the website provides a comprehensive list of links to articles, research papers and case studies on pro poor tourism.

4.1.1.2 One Caribbean

Link: <http://www.onecaribbean.org/resources/conference-papers/stc-other/>

A useful page of links to all papers and presentations from their sustainability tourism conferences and meetings.

4.1.1.3 Green Hotelier

Link: <http://www.greenhotelier.org>

A resource for information on different aspects of environmentally-friendly hotel practices with articles with examples of hotels and their greening work throughout the world.

4.1.2 Additional Articles and Case Studies

4.1.2.1 The Ecotourism Industry in the Caribbean: A Value Chain Analysis

Link:

https://publications.iadb.org/bitstream/handle/11319/6669/CMF_TN_Ecotourism_Industry_in_the_Caribbean.pdf

4.1.2.2 Tourism Penetration Index in Small Caribbean Islands

Link: <https://www.sciencedirect.com/science/article/abs/pii/S0160738397000686>

Article in Annals of Tourism Research³⁸⁹ includes studies of Dominica, St. Lucia, Antigua and Barbuda, and St. Maarten using a Tourism Penetration Index. Author states, “the four case studies detailed the process of tourism evolution in the region somewhat analogous to the resort cycle framework: (1) from small-scale, low-density, long-stay emerging Dominica, (2)

through rapidly growing, larger scale, medium penetrated St. Lucia and Antigua, to (3) mature, high-density, high-impact, short-stay St. Maarten/St. Martin. The four cases also highlighted the strategic policy challenges at each level of tourism penetration: achieving visibility, managing growth and sustaining tourism quality”.

4.1.2.3 Sustainable Tourism Using Regulations, Market Mechanisms and Green Certification (Barbados)

Link:

https://www.researchgate.net/profile/Michelle_Mycoo/publication/249023794_Sustainable_Tourism_Using_Regulations_Market_Mechanisms_and_Green_Certification_A_Case_Study_of_Barbados/links/5591255108aed6ec4bf69627.pdf

Using Barbados as a case study, this paper³⁹⁰ looks at sustainable tourism plans and policies, the influence of government and industry, inadequacy of infrastructure, and lack of public participation.

4.1.2.4 Ecotourism Along the Meso-American Caribbean Reef: Impacts of Foreign Investment

Link: <http://eprints.uberibz.org/1570/>

This paper³⁹¹ contains three interesting case studies of tourism areas: The Bay Islands of Honduras, Ambergris Caye, Belize, and Punta Gorda, Belize. The Punta Gorda case study is included in the body of this document (Section 1.5.3.6), but the other two are worthy reads/resources as well.

4.1.2.5 The Belize Coastal Tourism Project

Link: <http://ambergriscaye.com/kevin/11.html>

An assessment³⁹² of the Environmental, Socio-Cultural and Economic Impacts of Tourism in Coastal Communities in Belize.

4.1.2.6 Pro Pour Tourism Partnership

Link: <https://www.odi.org/sites/odi.org.uk/files/odi-assets/publications-opinion-files/4038.pdf>

Literature review³⁹³ of Caribbean tourism, local sourcing and enterprise development

4.1.2.7 Caribbean agriculture-tourism linkages in a neoliberal world (St. Lucia)

Link: http://digitalcommons.calpoly.edu/cgi/viewcontent.cgi?article=1039&context=ssci_fac

Paper³⁹⁴ discusses agriculture-tourism linkages in St. Lucia

4.2 Organizations Working on Alternative Tourism

4.2.1 United Nations Caribbean Environmental Programme

Link: http://www.cep.unep.org/content/about-cep/spaw/conservation-and-sustainable-use-of-marine-and-coastal-ecosystems/copy_of_sustainable-tourism

From their website: “One of the sub-programmes of the Caribbean Environmental Programme (CEP) is the Specially Protected Areas and Wildlife (SPAW) Programme. The SPAW Programme supports activities for the protection and management of sensitive and highly valuable natural marine resources. In 1996, the Caribbean Environment Network (CEN) Project was implemented by the CEP as a joint venture with the United States Agency for International Development (USAID), as a main donor agency.”

4.2.2 Caribbean Alliance for Sustainable Tourism (CAST)

Link: <http://www.caribbeanhotelandtourism.com/cast.php>

A not-for-profit established by members of the Caribbean Hotel Association (CHA) in 1997 to promote responsible environmental and social management of natural and heritage resources respectively, within the hotel and tourism sector. As the Caribbean Hotel and Tourism Associations key subsidiary, it is also the only not-for-profit in the region that focuses on the responsible development of the Caribbean tourism private sector.

4.2.3 Bahamas Geotourism Website (in partnership with National Geographic)

Link: www.bahamasgeotourism.com

From Bahamas.com³⁹⁵: “Small and medium sized businesses (SMEs) in The Bahamas now have access to over 50 million potential customers thanks to an innovative website that maximizes the country’s geotourism potential. The National Geographic Bahamas Geo-tourism Website was formed through a partnership among the Bahamas Ministry of Tourism, National Geographic, the Inter-American Development Bank (IDB) and Small and Medium Enterprises Development Agency (SMEDA).

The aim of the website is to boost the Family Islands’ tourism potential by acting as a driver of overall SME development. The website is the first of its kind in the region. It provides an interactive map of geo-touristic sites and supporting businesses across The Bahamas and offers comprehensive information on natural, cultural and historic attractions for various destinations. Information on the websites includes accommodations, action opportunities, community, festivals or events, food or drinks, health and wellness, historic or prehistoric sites, local points of interest, museums, theatres, interpretive centers, natural areas, outdoor adventure and packaged experiences.”

4.2.4 Sustainable Destinations Alliance for the Americas (SDAA)

Link: <http://sustainabletravel.org/our-work/solutions-for-destinations/regional-alliances/sdaa/>

From their website: “the first-ever large-scale multi-sector initiative for sustainable tourism destinations in the Caribbean and Latin American regions. The initiative was launched in March 2014 and aims to improve the way tourism is managed and to enhance the global competitiveness of the region by embedding sustainability into the day-to-day management and marketing of destinations throughout the region. Under the programme, various tools for measuring and monitoring destination sustainability will be provided, multi-stakeholder destination management will be encouraged and the local capacity to do so will be built.

In the Caribbean, where tourism drives the economy and the tension between the desire for development and the need to protect resources is ongoing, we are leading a consortium of businesses, destinations, donors, regional organizations and nonprofits — all with a vested interest in maintaining and restoring the region’s natural, cultural and economic integrity.

Destinations belonging to the alliance include:

- Antigua and Barbuda
- The Bahamas
- Barbados
- Dominica
- Honduras
- Jamaica
- Nicaragua
- St. Kitts

In each of these destinations, we’re providing a host of regionalized approaches to their unique set of challenges and opportunities, ultimately allowing them to determine their own paths toward ongoing sustainable development. The Sustainable Destinations Alliance for the Americas (SDAA) plans to expand the program to include more than 30 destinations in the next few years and to become the largest and most comprehensive project of its kind in the region.

SDAA members include the Organization of American States, Caribbean Tourism Organization, Royal Caribbean Cruises Ltd., Secretariat of Central American Tourism Integration and the United States Government through the United States Permanent Mission to the Organization of American States and G Adventures/Planeterra.”

4.2.5 Tripadvisor Green Leaders Certification

Link: <https://www.tripadvisor.com/GreenLeaders>

Tripadvisor implemented a Green Leaders sustainable hotel program in 2013 that provides a certification status of Bronze, Silver, Gold, or Platinum based on level of sustainability practices. The hotels self report sustainability efforts in their application and the information is validated randomly or through an investigative audit by Trip Advisor, but not through third party auditing. Proponents state that it gives consumers an easy way to make greener travel choices right at the point at which they are making their booking decision

The program is not without controversy. From an article appearing in The Guardian³⁹⁶: “The GreenLeaders programme falls a bit short in external review,” explains Randy Durband, CEO of the Global Sustainable Tourism Council (GSTC). “It does not adequately educate travellers about the differences between the hotels’ own claims and those confirmed by external audits or certification.” There are already at least 150 sustainable hotel certification programmes, making it difficult for consumers or hoteliers to understand what’s credible and what’s not. The GSTC – which partners with the United Nations Environment Programme (UNEP), accredits certification programmes and provides baseline sustainability criteria for hotels – is trying to refine this long list by devising a GTSC approved designation.

In this case GreenLeaders was developed without consultation of the GSTC, though TripAdvisor worked with UNEP as well as with organisations including the Carbon Trust and EnergyStar in designing its scheme.

4.2.6 Green Globe Certification

Link: <http://greenglobe.com/>

From their website: “The Green Globe certification is a structured assessment of the sustainability performance of travel and tourism businesses and their supply chain partners. Businesses can monitor improvements and document achievements leading to certification of their enterprises’ sustainable operation and management. The Green Globe Standard includes 44 core criteria supported by over 380 compliance indicators. The applicable indicators vary by type of certification, geographical area as well as local factors. The entire Green Globe Standard is reviewed and updated twice per calendar year.

The Green Globe Standard is based on the following international standards and agreements:

- Global Sustainable Tourism Criteria
- Global Partnership for Sustainable Tourism Criteria (STC Partnership)
- Baseline Criteria of the Sustainable Tourism Certification Network of the Americas

- Agenda 21 and principles for Sustainable Development endorsed by 182 Governments at the United Nations Rio de Janeiro Earth Summit in 1992
- ISO 9001 / 14001 / 19011 (International Standard Organization)

To guarantee compliance to the highest international standards, a third-party independent auditor is appointed to work with clients on-site. The international standard ISO 19011 provides guidance on the management of audit programs, the conduct of internal and external management systems as well as the competence and evaluation of auditors.

Industry Sectors

Green Globe Certification provides certification standards for the following Industry categories:

- Attraction
- Business (Whole Sale / Retail)
- Congress Center, Meeting Venues
- Cruise Ships (River & Ocean)
- Golf Course
- Hotel & Resort
- Meeting & Events
- Organization
- Restaurant
- Spa, Health Center
- Transportation (Mass Transportation, Bus Company, Limousine Service, Car Rental)
- Travel Industry (Tour Operators, Destination Management Company, Meeting & Incentive Industry)³⁹⁷

4.2.7 Ecological Blue Flag

Link: <http://www.blueflag.global>

The Blue Flag program provides certification for beaches, marinas, and boats that meet their water quality standards.

From their website: “A world-renowned eco-label trusted by millions around the globe, the Blue Flag programme is operated under the auspices of the Foundation for Environmental Education and is headquartered in Copenhagen, Denmark. In order to qualify for this prestigious award, a series of stringent environmental, educational, safety-related and access-related criteria must be met and maintained. Through close collaboration with our members on any and all issues they may have, the Foundation for Environmental Education works tirelessly to ensure the programme's expansion, and that the unrivalled standards of the Blue Flag are maintained internationally.”³⁹⁸

4.2.8 Rainforest Alliance Certification

Link: <http://www.rainforest-alliance.org/about/marks/rainforest-alliance-certified-seal>

From their website: “Proprietors of tourism businesses that demonstrate they are minimizing their environmental footprint and supporting workers, local cultures and surrounding communities may also be eligible for using the seal. Audits confirm these businesses meet requirements that include:

- Protection of nearby ecosystems
- Wise use of natural resources
- Climate change mitigation
- Benefits to the social and cultural development of surrounding communities”³⁹⁹

“The Rainforest Alliance offers training to tourism businesses -- including hotels and lodges -- that provides them with the tools and techniques they need to run efficiently and sustainably. Businesses that have completed our program and are interested in becoming certified can enter our certification auditing process and demonstrate compliance with our sustainable tourism standard to earn the right to use the Rainforest Alliance Certified™ seal on promotional materials”.⁴⁰⁰

³⁸⁸ “Pro Poor Tourism - Definition.” Accessed May 1, 2018. <http://www.ecotourdirectory.com/pro-poor-tourism.htm>.

³⁸⁹ McElroy, Jerome L. and Klausde Albuquerque. January 1998. Tourism penetration index in small Caribbean islands. *Annals of Tourism Research* (25:1).

³⁹⁰ Mycoo, M. (2006). Sustainable Tourism Using Regulations, Market Mechanisms and Green Certification: A Case Study of Barbados. *Journal of Sustainable Tourism*. 489-511.

³⁹¹ Moreno, Peter S. (2005) Ecotourism Along the Meso-American Caribbean Reef: The Impacts of Foreign Investment. *Human Ecology*, 33 (2).

³⁹² Diedrich, Amy. August 2006. An Assessment of the Environmental, Socio-Cultural and Economic Impacts of Tourism in Coastal Communities in Belize: Project Summary and Recommendations. Department of Marine Affairs, University of Rhode Island, Kingston, RI, USA

³⁹³ Meyer, Dorothea. January 2006. Caribbean tourism, local sourcing and enterprise development: Review of the literature. Centre for Tourism and Cultural Change, Sheffield Hallam

³⁹⁴ Timms, Benjamin. Caribbean agriculture-tourism linkages in a neoliberal world, problems and prospects for St. Lucia.

³⁹⁵ "Bahamas Geotourism Website Launched." The Official Site of The Bahamas. Accessed April 26, 2017. <https://www.bahamas.com/article/bahamas-geotourism-website-launched>.

³⁹⁶ TripAdvisor scheme helps travellers select a sustainable bed for the night. *The Guardian*. 2016. Available at: <http://www.theguardian.com/sustainable-business/2015/jan/07/tripadvisor-travel-sustainable-bed-green-hotels-holiday>. Accessed March 10, 2016.

³⁹⁷ Green Globe Certification. *Greenglobe.com*. 2016. Available at: <http://greenglobe.com/green-globe-certification/>. Accessed March 10, 2016.

³⁹⁸ Our Programme. *Blue Flag*. 2016. Available at: <http://www.blueflag.global/our-programme/>. Accessed March 10, 2016.

³⁹⁹ "What Does "Rainforest Alliance Certified™" Mean?" 2014. 14 Feb. 2016 Available at: <http://www.rainforest-alliance.org/about/marks/rainforest-alliance-certified-seal>

⁴⁰⁰ "Our Work in Sustainable Tourism." Rainforest Alliance. 2010. 14 Feb. 2016 Available at: <http://www.rainforest-alliance.org/work/tourism>