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Grant Murray ^a

^a Institute for Coastal Research, Malaspina University-College, Nanaimo, British Columbia, Canada

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Constructing Paradise: The Impacts of Big Tourism in the Mexican Coastal Zone

GRANT MURRAY

Institute for Coastal Research
Malaspina University-College
Nanaimo, British Columbia, Canada

Although coastal tourism is often looked to as a way of generating foreign revenue, it can also engender a range of social and environmental impacts. From an historical perspective, this article examines the growth of Cancún in the Mexican state of Quintana Roo since the late 1960s. The article documents a range of socioeconomic and environmental impacts associated with the rise of coastal tourism, and suggests that centralized planning and the provision of physical and financial infrastructure does not prevent those impacts. The principal causes of these impacts are also described, including changes in land-usage, population, tourism markets, foreign market penetration and control, an emphasis on short-term economic gain, weak regulatory enforcement, and an overall lack of integration of coastal zone management.

Keywords Cancún, environmental impacts of tourism, integrated coastal management, Mexico, social impacts of tourism, tourism life cycle

Introduction

Despite growing concern about the social and environmental impacts of large-scale tourism, many developing nations continue to look to tourism as a means of generating foreign revenue (Mowforth & Munt, 2003). Much of this growth is concentrated in coastal areas. Indeed, marine and coastal tourism has become one of the fastest growing areas within one of the world's largest industries (Hall, 2001). For example, tourism now ranks as the second or third most important industry in Mexico (Rivera Arriaga & Villalobos, 2001) and the state of Quintana Roo (see Figure 1) now contributes fully 1/3 of all tourism revenue in a country where 90% of tourism is on the coasts (Juarez, 2002). Despite this growth, the news has not all been good, however, and the state has seen significant social and environmental impacts. This article adopts an historical perspective to examine the rise of Cancún in the Mexican state of Quintan Roo as means of illustrating the complex challenges that managers face with respect to large-scale coastal tourism development.

The social and environmental impacts of tourism have been widely documented in various places throughout the world for the last several decades (Mathieson & Wall, 1982; Miller & Auyong, J., 1991, Salazar Vallejo & Gonzalez, 1993; Cesar Dechary & Arnaiz Burne, 1998; Hall, 2001). Indeed, a central tenet of Butler's (1980; 2006) widely cited,

Address correspondence to Dr. Grant Murray, Institute for Coastal Research, Malaspina University-College, 900 5th Street, Nanaimo, British Columbia, V9R 5S5, Canada. E-mail: murrayg@mala.bc.ca

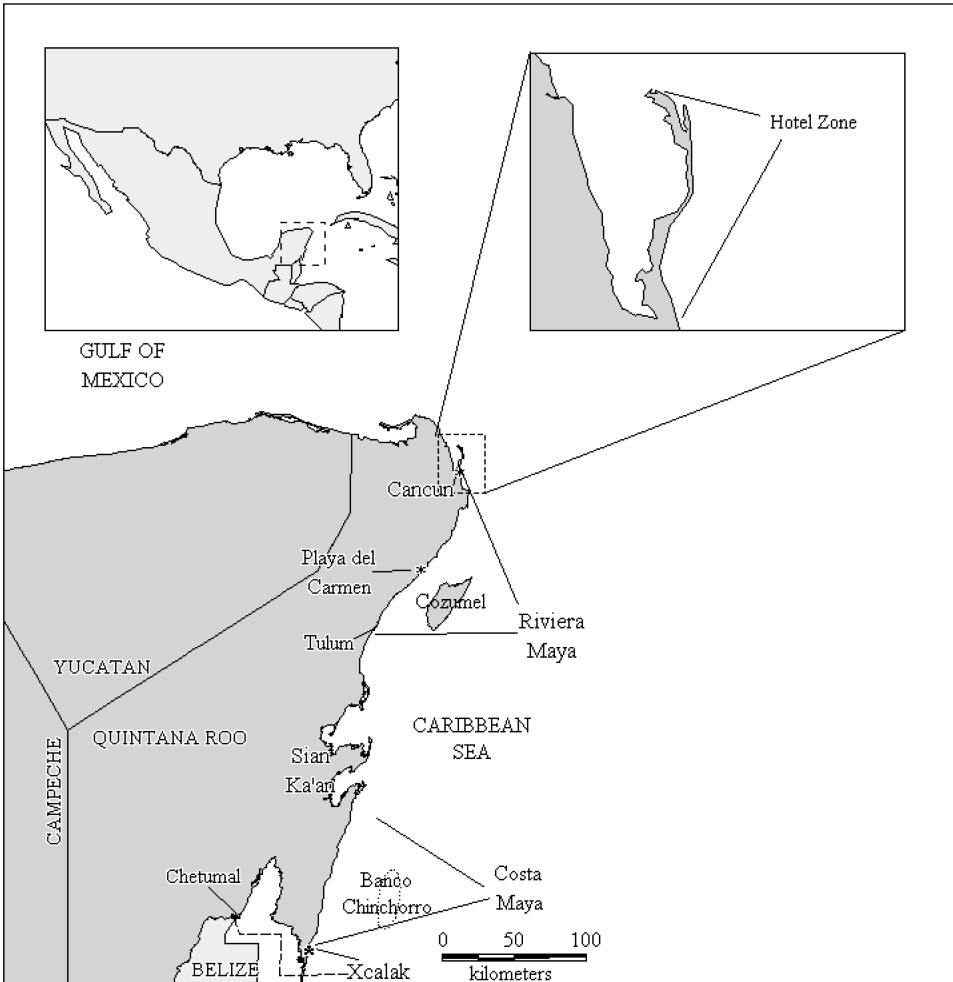


Figure 1. Quintana Roo, showing Cancún Hotel Zone.

and much debated (Hall, 2006) destination life cycle model is that increasing social and environmental problems associated with development will eventually lead to the stagnation and decline of a tourism destination. Cancún provides an important case study in this sense in that it was developed from nearly nothing—built on an isolated spit of sand in a then pristine part of the Caribbean. In this sense, it was less “discovered” than created. Cancún was also a “planned utopia,” a development featuring a high degree of government planning and control that nevertheless over-spilled its boundaries and engendered a range of impacts. Nevertheless, Mexico’s tourism planners continue to adopt this model, as suggested by the continued emphasis of the government supported, mass-tourism model in such places as Ixtapa, Los Cabos, Loreto, and the Bays of Huatulco. Moreover, the case study provides an important example for those areas in other countries considering a similar tourism development model.

This article draws on extensive archival research, literature review and nearly two years living and researching in Quintana Roo to examine the multi-scale (local to international)

factors that have influenced the development of Cancún and the outlying areas, and to describe the major social and environmental changes that have resulted. This includes examining changes in population size, heterogeneity, and distribution; per capita income and economic options; construction; rapid, largely uncontrolled development; the degree of foreign market penetration and control; an emphasis on short-term economic gains; the preferences of tourists themselves and weak regulatory control by all three levels of Mexican government. The article begins by tracing the development of Cancún and tourism in the rest of Quintana Roo before moving on to describing the breadth of the social and environmental impacts of that development. Finally, the article discusses management challenges, suggesting that the tourism “commodity” demands the integration of coastal zone management across several sectors.

The Creation of Cancún

There is a creation story that circulates throughout Quintana Roo that describes the birth of Cancún as the brainchild of a group of bankers in far away Mexico City. The choice was based on a computer’s analysis, or so the story goes, as the best place in all of Mexico to put this new playground—a planned utopia in an uninhabited wilderness that would help to launch Mexico’s growth on the strength of a rapidly developing international tourism industry. The process, of course, involved more than a simple computer printout, yet the basics of the story remain true. Indeed, at the time Cancún was selected as the site of a major federal tourism project in the late 1960s the then Federal Territory of Quintana Roo had few roads, was sparsely populated (with less than 80000 residents), had inadequate communications, and did not have an international airport.¹ But what the Territory did have was nearly 200 kilometers of beautiful, undeveloped coastline. Amazingly, this one time “political prison and tropical hell” (Torres Maldonado, 2001), a forest enclave on the wild far side of Mexico, would become a modern tourism destination in the space of just 30 years.

Despite abundant natural and cultural attractions, tourism did not begin in earnest in Quintana Roo until the mid twentieth century. In the post–World War II period, however, things began to change rapidly as a result of several factors. At that time international tourism had begun to grow explosively, as expanding populations from industrialized nations looked for outlets for growing disposable income on the wings of increasingly available commercial air travel. This period saw the rise of the first large-scale organizations and promotion efforts in Mexico by the private sphere, efforts that were supported and complemented by the government, though initially on a relatively small scale (Haydt de Almeida, 1994). As part of a more general push towards modernization Mexico began looking to international tourism, and opened its first tourism office abroad by the end of the 1950s, created the National Council for Tourism in 1961, and developed its first National Tourism Development Plan by 1962 (Hiernaux-Nicolas, 1999).

The larger economic picture within Mexico in the 1960s had also begun to shift. Previous, more protectionist economic models had left native industry overprotected and dependent, and the government began to look to alternatives, including international tourism. Social unrest throughout Central America was exploding uncomfortably close to lingering discontent in Quintana Roo at the same time that the Cuban Revolution, taking place less than 100 miles away, had redefined not only the strategic balance of the area, but also the vacation options for millions of Americans. Acapulco (which began

in the 1930s as a small-scale resort originally targeted at Mexicans) had proven that Mexican destinations could be big players—and big revenue earners—in international tourism markets (Hiernaux-Nicolas, 1999). At the local (Territory) level, unemployment was extremely high among what little population there was, and the region was deficient in even basic social services. Indeed, the explicit goals of the 1974 Federal Law for the Development of Tourism included addressing regional inequalities and marginalized communities, as well as attracting greater number of foreign tourists (Haydt de Almeida, 1994). (Re)settlement, occupation, economic development, and social relief, in other words, must be seen as having been at least supplementary goals of the project. But the generation of (foreign) revenue should be seen as the primary objective.

In the late 1960s the Bank of Mexico assumed control of large-scale tourism and created INFRATUR (for its Spanish initials, which in English represent the Tourism Infrastructure Fund), to spearhead the development of five large-scale projects. The star of these projects was to become Cancún. At that time, tourism in Quintana Roo was still small-scale, and centered on the islands of Cozumel and Isla Mujeres, where the industry had become the economic mainstay (Cesar Dechary & Arnaiz Burne, 1998; Torres Maldonado, 2001; Murray, 2003). Cancún was an isolated spit of sand shaped like the number 7, arcing into the Caribbean at the north end of the state and inhabited by no more than a few fishermen.

One of the first tasks of INFRATUR was to conduct an extensive, 'scientific' analysis of both the tourism market (e. g., tourists' provenance, preferences, and potential expenditures) and potential destinations. By 1966 these studies were underway, and a heavy emphasis was on the established combination of Sun, Sand and Sex. "We concentrated on the coasts, because previously conducted surveys showed that the beach was the principal attraction the foreign tourist was looking for" stated an initial planner (Martí, 1985). Cancún fit this physical requirement to a tee. Quintana Roo is blessed with approximately 860 km of coastline, a beautiful stretch encompassing a wide variety of scenic features, including bays, inlets, freshwater springs, lagoons, mangroves, sand dunes, rocky areas and—the backbone of the tourism industry—beautiful white sand beaches. These calcareous beaches have been marketed as "air-conditioned," and remain cool and pleasant to walk on, even under the most blazing of tropical suns. An additional attraction was the Mesoamerican Caribbean Reef (MACR), the second largest barrier reef system in the world. The MACR begins near Cancún, and continues southward in a more or less unbroken formation past the coasts of Belize and Guatemala to the Bay Islands of Honduras.

In the face of the almost total lack of social and physical infrastructure prior to the selection of the site, extra-local funding (from both the Inter-American Development Bank and the federal government) provided the foundation upon which future private investment would build enormous fortunes (Cesar Dechary & Arnaiz Burne, 1998). FONATUR (the successor organization to INFRATUR) controlled not only the sale and distribution of land, but also the type of development that took place. Martí (1985) suggests that the previously existing tourism organizations at the time (the Department of Tourism and the National Board of Tourism) were not only not in control, they were completely ignored. Development was primarily guided through the development of the Master Plan for Comprehensive Development, a document that planned for the scientific, capitalistic, rationalized, largely state-run development of a city over the next quarter century (Torres Maldonado, 2001). Indeed, this control and influence extended to the President's office, and at least one Mexican President likely owned property and invested directly in the project (Martí, 1985). The Cancún project was clearly an economic one from the beginning, a money-making machine created by bankers at the highest levels of Mexico's central bank with the fundamental goal of attracting foreign tourists and the revenue they would bring with them. Other goals

were subordinate to the economic logic of the project. “Certainly,” writes the journalist Fernando Martí of the very early stages of the project, “the proposed scheme would permit the concentration of riches in few hands, but from the point of view of the bankers the primary business was how to generate riches, not how to share them” (Martí, 1985).

Through the Bank of Mexico, FONATUR quickly bought the required property, purchasing *ejido* and privately owned land quietly (for low prices) to add to existing government lands. After a slow start, FONATUR created its own construction company to jump-start the development, developed six hotels directly, and provided highly attractive financing options for other developers (Martí, 1985; Hiernaux Nicolas, 1999). Success followed quickly. During the period from 1971–1976 the rate of economic growth in Quintana Roo tripled the national average and the state was one of only three in Mexico that saw an increase in gross internal product over the period from 1971–1982 (Cesar Dechary & Arnaiz Burne, 1998). By 1981 there were over 5,200 hotel rooms in Cancún (already surpassing the plan of 3,250) after just the first stage (Torres Maldonado, 2001).

The city of Cancún was, from the very beginning, designed as an ensconced First-World playground for the wealthy in an exotic, yet comfortable, Third-World locale. The physical layout of the city reflects that fact. The luxurious hotels are concentrated in what is known as the hotel zone, stretched along the narrow crescent shaped strip of sand that runs parallel to the mainland, separated by the Nichupté lagoon. The mainland near one end of the crescent was the site of the actual city of Cancún, where the workers, waiters and other immigrants were to be housed, out of sight of the efficient, gleaming, luxury hotels. In this initial formulation the natural environment was simply an attractive backdrop against which tourism was to take place. The beach was a crucial attractant, a beautiful place where tourists could come to lie in the sun. Cancún, in other words, was designed to deliver a very specific product, centered on the established Sun-Sand-Sex combination at a time when there seemed to be unlimited demand for this among international, high-income guests (Hiernaux Nicolas, 1999). The original plans called for a significant amount of open space, easy shoreline access, and initially imposed height restrictions on the buildings in an effort to make Cancún appear to be “free of the urban blight and third-world chaos that was already scaring the tourists away from Acapulco” (Simon, 1997). And, for a while, the designers largely succeeded.

The construction of these hotels required a substantial pool of labor, and the depressed region around Cancún (as well as the rest of Mexico) provided a seemingly ever-increasing spring of willing workers. By 1970, already nearly a quarter of the inhabitants of the state were immigrants (Cesar Dechary & Arnaiz Burne, 1998). Where before it had seemed almost impossible to attract migrants to the region, now they arrived in rivers, attracted to construction jobs around Cancún. And, almost immediately, the project was unable to handle the flood of migrants—many, for example, settled “irregularly” in the areas outside of INFRATUR control. By 1975, just four years after construction began, there were as many as 30,000 squatters in Puerto Juarez, a slum like area also known as the *Colonia* outside of Cancún itself (Macrae, 1999). Martí (1985) attributes at least part to inherent problems in the original, utopian INFRATUR plan, and an inability to account for the poor in Mexico: “Then,” he writes, “part of the problem had been caused by the rigidity of INFRATUR’s rules and of the project itself. That basically foresaw the creation of a perfect conglomerate, basically middle-class, where the regular inhabitants of Cancún would live. But there was no place for the poor and Mexico, simply, is a country of the poor.” Yet these first immigrants were but a trickle in comparison to the demographic deluge that was to come.

The 1980s would highlight the difficulty of addressing social concerns while maintaining a healthy business, and would further emphasize a departure of reality from

the utopian rhetoric associated with the early, planned development of Cancún. The desire to capture even more foreign revenue led to a relaxing of zoning restrictions, and the loss of control over the pace and style of development, even within the hotel zone itself. It was then that Joel Simon has charged “. . . the utopian city succumbed to mediocrity” (Simon, 1997). Yet not all would characterize Cancún as mediocre, despite a change in flavor. Pedro Joaquín Coldwell, during his time as Governor, called it “. . . one of the great successes of the government of the Revolution” (as quoted in Martí, 1985). While the eighties were “the lost decade” for much of Latin America, in Cancún growth was exceeding expectations, and the state government was firmly committed to it.

And tourists continued to come in droves. The reputation of Cancún had been established, and a devaluation of the peso made it a destination suddenly accessible to a much larger spectrum of (mostly American) tourists. The character of Cancún began to shift as well, moving towards a mass-tourism model where large travel companies (the large majority of which were, and are, American) dominated travel by offering cheap charter/package deals to the city (GQR, 1993). By 1994 charter flights accounted for nearly half of the arrivals by air (Hiernaux Nicolas, 1999). 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.

Torres Maldonado (2001) suggests several other factors that may have contributed to the boom in the eighties, including: continuing affluence of many investors, the continued availability of international credit (especially that from the IABD), uninterrupted support from the three levels of Mexican government, and the rise of SWAPS (for the Spanish acronym)—the substitution of public debt for investment. He also, in a footnote, points to the importance of the black market—especially drug trafficking—and the funds that represents. The amount of such “investment” is, of course, impossible to quantify. The increasing availability of cheap package deals has led to what some local businessmen lament as the “cheapening” of the market. Coupled with the money-retaining quality of the increasingly popular “all-inclusive” option, the “cheapening” of the market has led to what appear to be (they are difficult to quantify) declines in both per-capita expenditures and the amount of money per tourist that remains in the country.

Despite these changes, the absolute growth of tourism was astounding. The plan for the second stage had called for 15,700 rooms, which once again was surpassed, and by 1990 there were a total of 17,470 in Cancún alone, and nearly another 5,000 elsewhere in Quintana Roo. The planned densities per hectare were also surpassed, as the relaxation of zoning restrictions allowed for bigger and taller hotels (Torres Maldonado, 2001). In later phases, the original master plan called for 22,325 rooms in Cancún, for 2,259,290 visitors, a city-wide population of 2,81,875, and the generation of 64,600 jobs (both direct and indirect).² By the turn of the millennium, however, the population was likely over 400,000 or even higher, 2,987,841 visited Cancún alone, and an incredible 5,294,519 tourists visited the state overall, bringing with them over \$3.3 billion US dollars (<http://sedetur.qroo.gob.mx/>; INEGI, 2000). Even as the industry in Cancún itself clearly continued to grow, it also began to spill over the geographic boundaries envisioned in the original plan.

By the late 1980s the federal government had begun a gradual withdrawal from the tourism industry in Quintana Roo, at least when compared to the direct control of INFRATUR/FONATUR at the outset of the project (Hiernaux Nicolas, 1999; GQR, 1993). This, in turn, has led to increased relative control by the market and the state government.

By the early to mid-1990s the area that would become known as the Riviera Maya had also begun to explode, from quiet beginnings in the mid-1980s. The move to the Riviera Maya (a marketing name for the 120 kilometer beachfront strip between Cancún and the Mayan ruins at Tulum) was also clearly a response to the “cheapening” of the market, the decline of per capita visitor expenditure precipitated by the move towards a mass tourism model in the late 1980s, and a shifting market demand. The State Development Plan for 1993–1999, for example, stated that “the development of the Cancún-Tulum corridor will have success guaranteed if it establishes a hotel offering different from that of Cancún, closer to nature and more exclusive.”

In this sense, the more recent and more chaotic growth can be seen as an unplanned extension of the original plan. It can also be seen in terms of a ‘transference’ of control from FONATUR to market forces and a somewhat uneasy combination of regulation by the three levels of Mexican government. In any event, the next tourism gold rush was on, one that would come to exceed even the fantastic growth rates of Cancún itself. By 1993 the Riviera Maya (which was not yet called that) had already received almost half a million tourists. The *Wall Street Journal* (8/30/99) claims that the stage for “one of the biggest hotel-construction booms in history” was set in 1993 when then governor Mario Villanueva arranged for the federal government to cede to the state government control of more than 1000 acres of prime Riviera Maya land. According to the *Wall Street Journal*, “developers have perfected a formula of allying themselves with well-connected politicians, buying up beachfront on the cheap and building their hotels and condominiums as quickly as possible—even if it means bypassing time-consuming bureaucratic approvals.” Allegations of political corruption have also been rampant. *Proceso*, a liberal Mexico City newspaper, further suggested that some of the real estate deals along this stretch of land may have been less than savory, and reported in 1998 that “(a)mong the select group of owners of residences, ranches and lands in the area are leading political figures, prominent businessmen, major hotel chains, and drug traffickers. The deceased Colombian Pablo Escobar Gaviria and other drug kingpins bought properties in the region.”

The rate of growth on the Riviera Maya is almost unbelievable—greater even than the surge that created Cancún. According to internal documents received from the Trust for Tourism Promotion on the Riviera Maya, the number of hotel rooms has increased from a relatively modest 4,918 in January of 1998 to over 19,400 by January of 2002. Despite this explosive growth, the hotels of the Riviera Maya have so far managed to maintain an extremely high occupancy rate—in 2000 it was 82%, the highest in Mexico. At the same time, the city of Cancún itself has continued to prosper and grow, as have other areas of the state. Cancún, Cozumel, and Chetumal, for example ranked 3rd, 4th, and 10th in national growth rates in the early nineties (GQR, 1993).³

Socioeconomic Impacts

There is no question that the tourism industry has had profound effects on the economy of Quintana Roo. Fully 75% of the gross internal production in the state is now directly dependent on tourism—a dramatic shift from the forest products enclave economy that had dominated Quintana Roo in previous decades. These trends, however, are more dramatic in the tourism areas, and the central and southern areas remain much more heavily dependent on the primary sector (see, for example, Cesar Dechary & Arnaiz Burne, 1998). By 1992, a FONATUR representative estimated that the government had invested \$3 billion dollars in Cancún, and that each dollar invested had attracted ten times that in private investment

(Simon, 1997), though estimates of this ratio (public vs. private investment) range considerably (Torres-Maldonado, 2001). Despite rapid growth and massive in-migration, unemployment in Quintana Roo remains low, at least by Mexican standards. In February of 2003 the unemployment rate in Cancún itself was 1.7%, considerably less than the national average (for urban areas) of 2.8% (INEGI, 2000). Salaries are also higher in Quintana Roo (again mostly in tourism areas) and the state ranks among the five highest paying states in the country (Torres Maldonado, 2001).

Yet there is an uneasy relationship between the jobs and money that tourism brings, and the negative consequences that it brings with it. For there is clearly a downside: environmentally, socially, and even economically. The state, for example, has the highest rates of inflation and cost of living for tourism areas in the country and high wages should accordingly be taken in context. Employment, furthermore, remains dependent on the vicissitudes of the tourism industry, as more than 65% of the economically active population is dependent on it (Torres Maldonado, 2001). Statewide economic indicators also mask inequalities and a fundamental, and problematic, polarization within the state (GQR, 1993). The tourist zone has dominated the economy since the inception of Cancún: by 1990 the north represented 75% of gross internal product, the south 21% and the central region just 4% (Cesar Dechary & Arnaiz Burne, 1998).

In a place where attractive coastal lands are the key ingredient in the recipe for success, concentrated ownership has led to concentrated benefits. The “few” that get the benefits from tourism (or ecotourism) are often foreign firms, or multi-national tourism conglomerates. By 1993 the government of Quintana Roo had noticed this problem and noted a decrease in the “hoped for spillover of economic benefits” (GQR, 1993). It is difficult to exactly measure the percentage of foreign vs. national vs. local investment, particularly given the prevalence of multinational companies, nested corporations, and the added difficulty of obtaining information of this sort in Mexico, though Torres Maldonado (2001) does provide a breakdown, based on over 200 interviews he conducted from 1992–1995. He claims that it is possible that as little as 15% investment of investment stems from the local level. These figures are particularly important when we consider that much of the revenue generated by extra-local investment leaves the immediate area, or even the country. Joel Simon (1997), for example, claims that “Much of the profit earned by the international hotels—between seventy and ninety cents on each dollar by some estimates—is sent out of the country.” Simon also specifically highlights the political economic effects, and the close relationship between the tourism industry and the political sphere in Quintana Roo: “But while mega projects like Cancún may have made money for the federal government, they have also spawned a large-scale, capital intensive style of development geared towards quick returns. They have institutionalized land speculation and fomented a tourist economy in which capital is highly concentrated, developers are used to thinking big, and power is concentrated in the hands of the federal bureaucracy” (Simon, 1997; see also Friedland, 1999; Clancy, 1998). In 2001 a representative of the federal environmental Secretariat in the state was asked who in Quintana Roo benefited from tourism. With apparent seriousness, he answered by claiming that the benefits ultimately wound up in the pockets of just four individuals (Murray, 2003).

But perhaps the defining characteristic of society in Quintana Roo over the last 30 years has been continuing rapid growth. Poor migrants have flooded in from other areas of Mexico, especially from economically depressed Yucatán. By 1990, for example, there were 493,277 inhabitants, and by 2000 there were 873,804. In fact, these numbers most likely under-estimate the actual figures, particularly in hard-to-census areas like the slums of Cancún and the chaotic development near Playa del Carmen, a major center of the

Riviera Maya. Cesar Dechary and Arnaiz Burne estimate that the actual figure for 1990 should be approximately 100,000 more than the official figure (Cesar Dechary & Arnaiz Burne, 1998). This meteoric growth appears all the more stunning when seen in comparison to the rest of Mexico where the rate of population increase has actually declined. Although the rate of increase within Quintana Roo has decreased recently, it is still nearly three times higher than the national average.

This population growth has not been uniform within the state, and the population now varies dramatically between north and south, between urban and rural areas, and between coastal and inland areas. The northern tourism zone jumped from 28 percent of the total population in 1980 to 36 percent by 1990. By the year 2000 the percentage living in the northern tourist area was over 60%.⁴ Moreover, most people live less than just a few kilometers from the sea. By the early 1990s, already more than two-thirds of the population lived near the coast (GQR, 1993). The interior is composed primarily of *milpas*, small agricultural plots, and scattered villages—a throwback to the Quintana Roo of a few decades before. Another aspect of this spatial reshuffling involves increasing urbanization towards the principal cities of Cancún, Cozumel, Chetumal and, more recently, Playa del Carmen.⁵ Indeed, the rural to urban migration has been one of the defining characteristics of the last 30 years, and by the year 2000 sixty percent of the population was in cities of greater than 100,000 (INEGI, 2000). The cities have not been prepared to deal with this sort of growth. The *Colonias* that lie outside of tourism areas often lack in even basic social services and physical infrastructure.

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. Some villages, for example, have experienced the loss of over 90% of their economically active young (Cesar Dechary & Arnaiz Burne, 1998). But the promise of jobs is often a false one. 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.

Nor are the Maya the only ones to have suffered. Many other social problems cut across ethnic boundaries. Interviews of health and social workers in Xcalak, Chetumal, Puerto Morelos, and Cancún suggest evidence of a rise in various social problems, which they attributed to recent rapid growth. Though no health workers provided exact statistics about health problems associated with the tourism industry the most prominently mentioned concerns included drug-trafficking and other black market profiteering, illegal immigration, higher crime rates, increases in prostitution, a rise in alcoholism and forms of drug-abuse, spousal abuse and more generalized violence, and a rise in sexually transmitted diseases (Murray, 2003; GQR, 1993). In this light, statistics like those provided by Juárez (2002) seem less confusing: despite being one of Mexico's most prosperous states, Quintana Roo has the fourth highest rate of malnutrition.

The social impacts of tourism have not all been negative. The northern zone has seen some increase in, or “thickening” of, civil society, and the number of NGOs and business organizations has grown dramatically. Furthermore, a small, but growing, local entrepreneurial class has emerged. The state also now boasts several academic institutions, including the University of Quintana Roo and El Colegio de la Frontera Sur (ECOSUR) in Chetumal. In Cancún, Chetumal and, to a lesser extent, other areas, health and social support centers have been established, housing loans for low-income families have become increasingly available, and dozens of new schools have been built. Again, however, the availability of these services differs sharply among areas of the state (areas that are composed of different social groups) and many locations remain without adequate education infrastructure (GQR, 1993; Cesar Dechary & Arnaiz Burne, 1998). The quality of shelter has also increased, though again the improvement has been unequal. By 1990, for example, 60% of homes in the tourist zone had concrete walls, versus 35 percent in the Mayan zone and 53% in the south.

Furthermore, the percentage of homes with water, sewer and/or electricity is above the national average, although again these figures vary within the state. In 2000, 97% of homes in the northern *municipio* of Benito Juárez had sewage, for example, whereas closer to 30% had it in the central *municipio* of José Maria Morelos (INEGI, 2000). It should also be noted that even within the tourism zone, there remains large areas without these basic services, especially in areas outside of the original FONATUR areas. The *municipio* of Solidaridad (which includes Playa del Carmen and much of the Riviera Maya), for example, has running water for 2/3 of homes, versus nearly 98% in Benito Juárez (Cancún). Given the high growth rates in areas like Solidaridad, and the difficulty of doing a proper census in marginalized areas like the extensive *Colonias*, it seems likely that the actual number of homes without these services is even higher (Cesar Dechary & Arnaiz Burne, 1998).⁶

Quintana Roo also has become a place of extreme physical-social stratification, where high-value coastal areas are the domains of (foreign) tourists, and the support communities (which are often slums) are physically separated, usually by a strip of mangrove or jungle. The “ugly” side of tourism is thus hidden from view. On the other side of the highway is what has come to be known as the *Colonia*. In Playa del Carmen, this is a huge, sprawling place that tourists almost never see, and is entirely a different scene than the glittering row of resorts on the other side. This physico-spatial stratification clearly has economic roots, and serves to compound social marginalization. In the *Colonia*, many of the houses are no more than huts, on bare patches of earth literally hacked out of the jungle. These huts house the workers who either hike or are bussed across to the other side. Many residents lack land tenure, many have no sewage or septic systems, and electricity is irregularly available. This problem has been recognized by the State government, which blames several factors, including a lack of available lands and that nearly three-quarters of the economically active population makes less than three times the minimum salary which, in Mexico, limits access to certain loans (GQR, 1993).

Many in coastal areas have been forced into ever more concentrated areas. In a study of Mayan families, Juárez claims that whereas formerly in Tulum there were one or two families per *solar* (or family plot), now there are nine or ten (Juárez, 2002). And it is not only the Maya nearly anyone who is not wealthy is spatially marginalized. Fishermen who once settled or made seasonal camps in coastal areas along both the Riviera Maya and the Costa Maya have been displaced when the land they had occupied suddenly became valuable. This spatial stratification even extends to areas that are legally public, such as the beaches (Martí, 1985; Juárez, 2002; Stevenson, 1998). The contrast is striking. There

is a *Colonia* outside of Puerto Morelos, one that rings Cancún, another in Tulum, and one outside of Akumal . . . indeed, it safe to say that a *Colonia* exists near to any area that provides jobs, and the possibility of living the tourism dream.

Environmental/Physical Impacts

In an overview of environmental problems in the state, Zarate Lomeli et al. list the main sources of pollution and environmental impact in the coastal zone of Quintana Roo, and describe these various impacts in terms of their importance (Zarate Lomeli et al., 1999). They include the following: overexploitation of fishing resources (listed as an important impact); conversion of soils, degradation of vegetation and ecosystems for the construction of urban and touristic infrastructure (listed as very important); pollution of water, air, soil and biota due to solid, liquid, and gaseous residue (important impact); water consumption (important impact); and conversion of soils, vegetation and ecosystems to agricultural and grazing areas (important).

From the beginning the tourism industry has involved direct and massive alteration of the coastal environment—in fact, on a very narrow strip of the coastal zone running from the barrier reef inland no more than a few hundred meters away from the water. Fourteen of the 18 holes on the *de rigueur* championship golf course, for example, were built on fill over the Nichupté lagoon and mangroves and resorts now line the beach along nearly the length of the Riviera Maya. A hotel too far inland simply will not attract many clients. General changes in land-use from the construction of hotels on fragile coastal lands have resulted in increased sediment run-off, to which coral reefs are particularly sensitive (Salazar Vallejo & Gonzalez, 1994). There has also been extensive deforestation, and mangroves have been filled in, despite enjoying legal protection under Mexican law. Some of this destruction is illicit, and clandestine, and therefore difficult to measure (personal observation).

Another major problem is untreated sewage. Salazar Vallejo and Gonzalez (1994) point to the lack of effective wastewater treatment facilities along the Caribbean coast of Quintana Roo, and the close proximity of the reef system. Or as Zarate Lomeli et al. (1999), put it, “Sewage in the main urban zones of the Gulf of Mexico and the Caribbean has produced serious problems of micro-biological pollution in the coastal zone, because they are dumped without treatment.” The sewage problem is compounded by run-off from streets and other paved areas, landscaping fertilizer, and other non-point sources. In the five largest settlements in the state only 20% of discharged water is connected to treatment facilities, and 80% dispose of their waste in “badly constructed” septic fields, absorption wells, or no facilities at all. In rural areas these percentages are even higher, and by the early 1990s many water supplies were already contaminated (GQR, 1993). Even in the hotel zone of Cancún, where sewage systems are the best, there is still extensive contamination. Given the porous nature of the substrate, and untreated residual water discharge, it is not surprising that there has already been some bacteriological contamination of the aquifer in Quintana Roo (UQROO, 1999). By 1996, Cesar Dechary and Arnaiz Burne described the Bojórquez lagoon as “lost” and the Nichupté lagoon system (both are near Cancún) as in crisis (Cesar Dechary & Arnaiz Burne, 1996). These bodies of water were also specifically mentioned in the State Development Plan for 1993. By the early 1990s, things had already deteriorated so badly that FONATUR was forced to run several algae collecting barges in the lagoon. Local sources of hydrocarbons also contribute to the contamination of near-shore waters. Levels of hydrocarbons in sediments in the Nichupté Lagoon, for example, have been found as high as 93 ppm, exceeding the recommended maximum

of 70 ppm set by UNESCO in 1976. Waters in the Mexican Caribbean have been found to contain as much as 15 ppb, exceeding UNESCO's recommended level of 10 ppb (Zarate Lomeli et al., 1999).

There are also several direct effects on the reef system. These include damage from anchoring on the reef itself, physical damage from boats in shallower areas, shading out of certain reef areas by floating platforms, and contamination by the literally millions of sun-block coated tourists who visit areas of the reef. More indirectly, extraction from the coral reef system associated with the tourism industry has also increased. Fishing levels have intensified and commercially valuable stocks have declined, sometimes dramatically. One fisher (in his late 1960s) in Xcalak, for example, recounted stories about the former abundance of lobster in the area. When he was a young man, he claimed it was possible to simply walk out on the beach, and bend over and pick up lobsters of a kilogram or more. Now, weeklong fishing trips, miles offshore do not result in a single lobster that large. Official fishing data is unreliable in Quintana Roo, though SEMARNAT (the federal environmental ministry) has acknowledged a decline in both lobster and conch stocks. Indeed, there has been a ban on conch fishing in most areas for several years.

Other species are also affected by the tourism industry, and associated population growth. Sea turtles and their eggs are used as food sources for example, despite the fact that by 1990 Mexico had declared a permanent ban on harvesting these animals in the Pacific, Caribbean, and Gulf of Mexico. Today, the turtles face a new threat—continued construction of tourism facilities in sensitive egg laying coastal areas. In addition to turtles, at least eight or so species of birds are still hunted, along with four species of mammal (raccoon, agouti, tejón, and sereque). Juárez (2002) points to a decline in several species of game animals (as well as a continued decrease in crop yield per acre) for many Mayan communities.

These impacts have also involved protected areas within the state. As early as 1993, for example, Salazar-Vallejo *et al.* had noted that coastal protected areas in northern Quintana Roo had been affected by organic pollution, deforestation, the filling of wetlands, and direct damage from divers and dive boats (Salazar Vallejo et al., 1993). Indeed, certain environmental impacts—like direct stresses from divers and dive boats—are concentrated in protected areas as many tourists are drawn to the idea of visiting a national park. The Parque Nacional Isla Mujeres, Cancún y Nizuc (a small park off of Cancún), for example, received a million tourists in 1995. The Park in Cozumel received 700,000 (Ruiz Sandoval, 1997). Not surprisingly, Salazar Vallejo et al. (1993) noted the shoreline of Isla Mujeres and the area off of Punta Cancún had a “minimal state of conservation” by the early 1990s, despite having been declared a Refuge for marine flora and fauna in 1973 (it has since been re-categorized as a National Park). Other protected areas are in better condition—including the Sian Ka'an Biosphere Reserve and the Sian Ka'an Reef Biosphere Reserve.

Many of these impacts were noted by the early 1990s by the government of Quintana Roo, as well as several more, including the a scarcity of green and recreation areas in Cancún, general deterioration of the countryside (landscape), and the elimination of native species (GQR, 1993). The government of Quintana Roo is, in other words, not oblivious to these impacts, and explicitly recognized the need to address environmental issues by the early 90s: as with the adverse economic and social impacts outlined earlier, the need to improve environmental quality was explicitly recognized as a statewide goal in the State Development Plan for 1993–1999 (GQR, 1993). For example, with respect to specific areas like Playa del Carmen the government wrote, “The urban image is one of

accelerated anarchic growth; over-densification exists in commercial areas, visual disorder and degradation of the environment” (GQR, 1993).

Discussion

By some measures big tourism in Quintana Roo is clearly a big success. A great deal of money has been made and the primary original goal (if we take it to be revenue generation) has been met—and exceeded. Among some, there has been a clear sense of pride associated with this success. Antonio Enríquez Savignac, an important intellectual force behind the development of Cancún (and later the Mexican Secretary of Tourism and the Director of the World Tourism Organization) was quoted as saying “Cancún is a Mexican project, completely thought of, planned, constructed, and administered by Mexicans. And this is important, because until then there had been no precedent in the world of a tourism center developed from the beginning from nothing. After Cancún, many countries have wanted to follow the route traced by Mexico. But no project has had as much success as ours. Cancún is a triumph of Mexico” (as quoted in Martí, 1985). Martí (1985) reminds us that despite the fact that lamentable social conditions do in fact exist in Cancún (and did when he wrote in 1985), these conditions are not unique to that city, and in at least some ways the marginalized in Cancún are better off than the marginalized in other areas. “. . .(T)oday Cancún continues as a lost city, but is the least lost of all the marginalized cities of the country. . . .” It is also true that some benefit a great deal—large-scale economic interests, those in control of coastal lands, government officials interested in revenue generation, those that do manage to find jobs, and so on.

Yet today there is a deep sense of ambivalence about Cancún, and even about tourism in general, throughout Quintana Roo. In addition to the generation of revenue there has also clearly been negative social, environmental and even economic impacts associated with the growth of this planned utopia. What is perhaps most critical to appreciate is the uneven distribution of the costs and benefits associated with this growth. Many Maya, displaced fishermen, and environmentalists, for example, cite a litany of complaints. Indeed, this sense of ambivalence extends to the tourists themselves. The executive editor of *Frommers On-Line*, for example, was recently quoted as saying, “Cancún provokes either love or hate—nothing in the middle . . . those (people) fond of the beach, of being pampered, of turquoise waters and white sand, of cold beers and soothing margaritas, of really getting away from daily life, love the place and can’t wait to experience it a second or third time . . . critics love to hate it because it was manufactured from nothing—it was the world’s first resort to be engineered from scratch after a talent search by the Mexican government” (as quoted in Zurowski, 2002).

In Cancún the consumption of an experience clearly requires much of the land and the local social fabric. The tourism commodity has been seen as fundamentally different than others—specifically as more environmentally friendly. However, tourists demand a beautiful backdrop, and enjoying that backdrop also demands comfortable hotels, bars and restaurants, transportation and waste disposal infrastructure—and these have environmental impacts. The provision of an experience that tourists are willing to pay for requires substantial modification of the land, and engenders social changes that have been far from universally favorable.

The material presented above suggests that a high-degree of centralized planning does not lead to an “escape” from Butler’s (1980; 2006) tourism destination life cycle. Although the efficient provision of physical and infrastructure through INFRATUR/FONATUR

certainly facilitated the initial development of Cancún, centralized management of this sort has not proven adequate in addressing the myriad environmental and social impacts that development has precipitated.

Indeed, Mexico really has no overall integrated strategy for managing the coastal zone (Bezaury-Creel, 2005), representing perhaps the fundamental challenge for the tourism industry in Quintana Roo. For example, it is critical that management be integrated across the levels of government. Riviera-Arriaga and Villalobos (2001) suggest that currently the management of the coastal zone in Mexico can best be described as a three-pronged approach: protected areas, agency leadership, and the use of OETs (Ordenamiento Ecológico Territoriales—translated here as ecological land-use plans). This multi-pronged approach further points to the need to integrate management beyond the reach of FONATUR, and across the three levels of Mexican government (a point that the Mexican government has itself acknowledged—see SEMARNAP, 2000). Although the Federal government has control over marine areas and a narrow strip of coastal land, the state (Quintana Roo) remains highly influential and has control over the land more than twenty meters from the sea, and is a principal actor in developing and enforcing the OETs that regulate land usages on both the Riviera Maya and the Costa Maya. The state, in other words, can and does play a powerful role in determining how coastal conservation is actually carried out. Moreover, as the material presented above suggests, the impacts of tourism are both environmental and social, and span across the responsibilities of various traditional sectors and government agencies.

It is important to recognize that the government and even development interests are not unaware of the problems of large-scale tourism. As evidenced in the text of the State Development Plan for the early 1990s, the government of Quintana Roo clearly recognizes the need to address several aspects of the tourism industry: environmental degradation, social inequality, and economic fragility principal among them (GQR, 1993). Moreover, at least some of the legal structure for the adequate management of the coastal zone, and the functioning of marine protected areas already exists. Salazar-Vallejo et al. (1993), however, conclude that “The content of the law is appropriate. What is lacking is that it be put completely in practice”. Rivera-Arriaga and Villalobos (2001) echoed this sentiment nearly a decade later, and generalize it for the coastal states of the Gulf of Mexico and the Caribbean: “Most state institutions are weak, and struggle to fulfill their responsibilities in the coastal zone. This is mostly due to limited budgets, lack of interest for coastal issues, and lack of experience or trained personnel in environmental management.” Enforcement, and the political will for it, has been lacking, and movement from government control towards state and market control has not led to a significant change in the environmental and social impacts (though it is arguable how much control the government ever really had). In addition, there are several other inter-related problems that lead to the larger problem of enforcement (or lack thereof) of the legal structure for the coastal zone including the overly general nature of much of the legislation, a lack of resources, corruption, and a weak judiciary (Murray, 2003). Ortiz-Luzano et al. (2005) further suggest that Mexico has so far not been able to organize the data-gathering and research necessary for the management of the coastal zone.

So what does the future hold for Cancún? Developers and officials alike have begun to acknowledge that the vertiginous growth and success of the tourism industry carries within it the seeds of its own destruction. Those in the industry are keenly aware of this, and the specter of Acapulco haunts developers, conservationists and government officials alike. Perhaps most importantly, however, the tastes of tourists themselves have begun to shift towards demanding more natural or authentic experiences. Since the inception of Cancún,

the industry has always responded to the demands of their clients. So far, however, the shift toward “eco”-tourism has largely been a cosmetic one, and it is unclear whether this truly represents a change in direction, or merely a marketing ploy of a stagnating/declining destination. For example, many operations utilize the rhetoric and symbolism of nature-oriented tourism, yet cause substantial environmental damage and are not benefiting local populations in any substantial way (Simon, 1997; Murray, 2003). What remains to be seen is whether the will exists to enforce and obey legislation—and to develop and truly follow new directions—that ensure that the goose that lays the golden egg is not killed by its own success.

Notes

1. Quintana Roo became a state in 1974. For a more detailed description of environmental and social conditions prior to the 1970s see Murray, (2003).

2. Macrae (1999) reports that in 1988 the original Master Plan was changed, and the total number of rooms was changed to 35,000, a move that may have been more about accommodating projected reality than true planning.

3. The most recent phase of growth in the tourism industry in Quintana Roo has been into eco-tourism centered on the Costa Maya, the marketing name given to the southern, largely undeveloped end of the state (see Healy, 1997 for the national policy context). Nature or culturally oriented tourism has become the next thing in consumer demand and the Costa Maya project must be understood—at least in part—as an attempt to tap into the market potential represented by those interested in a more ‘natural’ or ‘authentic’ experience. While the move towards this new market is an important one from the point of view of Butler’s destination life cycle model, it is not explored in detail here (see Murray, 2003 for additional detail).

4. Cesary Dechary and Arnaiz Burne (1998) estimate that the actual figure might be closer to 42% in 1990, again due to difficulties in accurately assessing urban populations. See also INEGI, 2000.

5. Yet, somewhat paradoxically, there has actually been a concurrent atomization of rural areas, particularly in the southern zone (though also in non-coastal areas of the north). Improved communications and supply mechanisms, and the emergence of more intensive agriculture (versus the shifting *milpa*) have precipitated significant increases in the number of agriculturally oriented settlements (supported by some government programs) of less than 100 persons (Cesar Dechary & Arnaiz Burne, 1998). There are large cities and very small settlements, in other words, but very few intermediately sized villages.

6. Other social indicators have shifted as well, though it is difficult to assign negative or positive connotations to them. As the urbanization pattern has shifted, for example, so have such things as marriage patterns. There has been an increase in the number of civil ceremonies versus religious ones, and divorce rates (in urban areas particularly) have increased. Catholicism has declined, from nearly 90% in the 70s to under 80% in the 80s (versus 90% country-wide). Birth rates have dropped, from 3.4 in 1970 to 2.3 in 1990, though again there is a difference between the Mayan zone and urbanized tourist areas. The birth rates in José Maria Morelos, for example, in 1990 remained at 3.2 while in Benito Juarez they dropped to 1.9 (Cesar Dechary & Arnaiz Burne, 1998). The age structure in Quintana Roo, however, is also quite young: 2/3 of the population is under the age of 30 (INEGI, 2000), despite the fact that the birth rate in the early 90s rate per woman is the lowest in the nation—again highlighting the importance of migration to the area (GQR, 1993).

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