

The environmental effects of Tourism in Cancun, Mexico

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ABSTRACT

Coastal tourism is an integral part of the Mexican economy and one fourth of the total national tourism revenue is generated alone in Cancun, Mexico. Once the area was an underdeveloped, snake-infested jungle in one of the poorest region of the nation, however, by last couple of decades Cancun has undergone a major transformation and each year over two million visitors visited, justifying Cancun as the world-class tourism destination. Although coastal tourism in Cancun has been greatly successful in generating foreign revenue, it has severely impacted a range of environmental aspects. The article provides the historic perspective about the rise of tourism in Cancun. The environmental effects of tourism are discussed in details and preventive steps towards sustainable eco-tourism have also been proposed. The fundamental causes of environmental effects of tourism are described, including changes in land-usage, weak regulatory enforcement, and an overall inefficiency of tourism and environmental policies.

Keywords: Cancun, environmental effects, ecotourism, tourism.

1. Introduction

Tourism is one of the world's largest economic activities and the environment, on which much of it depends is an important economic asset. Tourism ranks as third most important industry in Mexico. Tourism has been used as a major tool for growth and development in Mexico and it has been mostly concentrated in coastal areas (Rivera-Arriaga & Villalobos, 2001). Cancun is located in Quintana Roo state, and contributes one fourth of all tourism revenue in the country (Juarez, 2002). Few decades ago, the area was an underdeveloped, snake-infested jungle in one of the poorest region of the nation. However, for last ten years over two million visitors arrived to Cancun each year justifying the place as a world-class tourism destination. The fascinating development of tourism in Cancun is the crown jewel of the state-planned tourism centers in Mexico and exemplary to both Caribbean/Latin American and the world (Azzoni, 2009).

Cancun, Mexico and many other developing nations continue to consider large-scale tourism as a source of generating foreign revenue despite growing concern about the social and environmental impacts (Cesar Dechary & Arnaiz Burne, 1998). The tourism industry highly relies on its natural resources and has significant environmental, cultural, social and economic impacts, mostly in an adverse manner (Mowforth & Munt, 2003). The current review provides several examples where tourism activities have threatened and undermined the integrity of natural resources and bio-diversity. The article examines the rise of Cancun as an example illustrating the complex, rather hazardous effects of large-scale coastal tourism. Additionally, we discussed the need of sustainable tourism that can generate substantial economic benefits without impacting the environment.

2. Geology of Cancun

Cancun lies on 20-mile-long barrier island in the state of Quintana Roo which is situated to east of Mexican states, Yucatan and Campeche. Cancun occupies 50,212 square kilometers of Mexico's Yucatan Peninsula (Figure 1). During Miocene and Pliocene eras, most part of the peninsula was a shallow sea that ultimately conferred the unique geology to Cancun distinct from the other areas of Mexico.



Figure 1: Geological map of Yucatan Peninsula-

The main types of rock in the peninsula include limestone, dolomite, and other evaporates. Because of the high rainfalls in northern regions, most of these evaporates have been chemically weathered to form an intense network of caverns. Karst Land (areas with high concentration of caves) is a key factor when considering the diverse Yucatan's environment. The diversity in the flora and fauna is significant that 10% of them are found nowhere else. The Northwestern area of the peninsula contains the most diversity, due to its rainforests and peculiar geology. As there are no rivers and lakes, species had to evolve by extending their roots to reach the underground river systems (Cabrera-Ramírez and Carranza-Edwards, 2002).

The hotel zone (Figure 2) is a tourist hub; located on L-shaped barrier island of Cancun facing the Caribbean Sea to the east and the Nicupté Lagoon to the west. With turquoise waters, sugar white sands, and an average year-round temperature of 82 degrees Fahrenheit, Cancun is an ideal setting for the sun-sand vacation, appealing to travelers around the world. Home to dazzling four- and five-star resorts, world renowned nightlife, and nearby cultural attractions such as the Mayan cities of Chichen Itza and Tulum, Cancun provides visitors "a little bit of everything" (Garcia, 2010; Hiernaux-Nicolas, 1999).



Figure 2: The hotel zone of Cancun

3. The creation of mass tourism in Cancun, Mexico

The creation of touristic Cancun is often dubbed as the brainchild of a group of bankers far away from Mexico City. As recently as mid-1960s, the area was known as one of the most backward, remote, unhealthy, uneducated and sparsely populated regions of Mexico. The life in this region has continued as it has been for centuries, with inadequate communications and no electrical or plumbing facilities. The territory was very sparsely connected with very few roads and did not have an airport (García de Fuentes, 1979).

However, Quintana Roo state is blessed with about 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 beautiful white sand beaches - the backbone of the tourism industry. These calcareous beaches have been marketed as air-conditioned, remain cool and pleasant to walk on, even under the most blazing of tropical suns. An additional attraction is the Mesoamerican Caribbean Reef (MACR), the second largest barrier reef system in the world. The MACR begins near Cancun, and continues southward until the Bay Islands of Honduras (Marti, 1985; Torres Maldonado, 2001).

Despite the abundant natural and cultural attractions, tourism did not begin in Cancun until last four decades. However, by 2000, over two million visitors arrived to the Cancun resort each year. The transition started during the 1960's economic crisis in Mexico as tourism represented an important opportunity to bring foreign currency into the country. The creation