

Negative Environmental Impacts of Tourism, a Brief Review

Mohammad Mehdi Sadeghian

Department of Landscape Design, Isfahan (Khorasgan) Branch, Islamic Azad University

Corresponding author: Mohammad Mehdi Sadeghian

ABSTRACT: The relationship of tourism with the environment is complex. The negative impacts of tourism development can gradually destroy environmental resources on which it depends. It must be planned to make balanced use of the resources of any site, thus avoiding negative effects, reducing visitor pleasure, or harmfully impacting the local society, economy and culture. There are some negative factors also to be considered, noise pollution, air pollution, chemicals and waste, solid waste and littering, negative impacts on wildlife, loss of biodiversity. There are many methodological approaches for measuring negative impacts of tourism. There are a number of critical issues facing each of the techniques for which a brief overview was provided. The issues presented and implied within this article will improve the practicality of negative impact studies to the tourism industry. In this paper, describe that the effects of tourism on natural resources and environmental pollution. In addition, we explain environmental impacts of tourism on global scale, industrial impacts on tourism and, finally, how tourism can contribute to environmental conservation.

Keywords: Tourism, Environmental, Conservation, Negative Impacts.

INTRODUCTION

Negative impacts from tourism occur when the level of visitor use is greater than the environment's ability to cope with this use within acceptable limits of change. Uncontrolled conventional tourism poses potential threats to many natural areas around the world. It can put enormous pressure on an area and lead to impacts such as soil erosion, increased pollution, discharges into the sea, natural habitat loss, increased pressure on endangered species and heightened vulnerability to forest fires. It often puts a strain on water resources, and it can force local populations to compete for the use of critical resources.

METHODS AND MATERIAL

The study has been showed on the basis of library, internet, various seminar papers, taskforce reports of research organization and journals on negative environmental impacts of tourism have been surveyed for the purpose of accumulating information.

Air Pollution

Pollution in the form of dust and dirt in the air may be generated from open, devegetated area if the tourism development is not properly planned, developed and landscaped or is in an interim State of construction. Most tourism-related air pollution comes from automobiles (Andereck, 1993).Automobiles emit by far the most carbon monoxide of all transportation modes. In 1997, they emitted 26 million short tons of carbon monoxide, compared with 1.7 million short tons from recreational marine vehicles, and 1 million from aircraft. Specific information on tour bus emissions was not available, but all heavy-duty diesel vehicles emitted 1.4million short tons in 1997.Transport by air, road, and rail is continuously increasing in response to the rising number of tourists and their greater mobility. The International Civil Aviation Organization reported that the number of international air passengers worldwide rose from 88 million in 1972 to 344 million in 1994. One consequence of this increase in air transport is that tourism now accounts for more than 60% of air travel and is therefore responsible for an important share of air emissions. One

study estimated that a single transatlantic return flight emits almost half the CO emissions produced by all other sources consumed by an average person per year (ICAO, 2001).

Noise Pollution

Noise generated by a concentration of tourists road and certain types of tourist attractions such as amusement parks or car/motorcycle race tracks may reach uncomfortable and irritating levels for nearby residents and other tourists. Such loud noise can often result in ear damage and psychological stress. Noise pollution from airplanes, cars, and buses, as well as recreational vehicles is an ever-growing problem of modern life. Noise pollution from airplanes, cars, and buses, as well as recreational vehicles such as snowmobiles and jet skis, is a problem of modern life. In addition to causing annoyance, stress, and even hearing loss for humans, it causes distress to wildlife, especially in sensitive areas (www.unepie.org/tourism).

Water Quality

Water especially, is one of the most critical natural resources. The tourism industry generally overuses water resources for hotels, swimming pools, golf courses and personal use of water by tourists. This can result in water shortages and degradation of water supplies, as well as generating a greater volume of wastewater. The tourism industry impacts water quality through construction and maintenance of tourist infrastructure, recreational boating, and certain activities of the cruise industry. Tourist infrastructure increases the pressure on existing sewage treatment plants and can lead to over flows during peak tourist times. The most significant problem from the standpoint of human health associated with recreational boating and water quality is the discharge of sewage into water bodies with limited flushing, where the discharge occurs near the location of shellfish beds. Diseases that can be potentially transmitted through human contact with fecal discharge and/or ingestion of contaminated shellfish include typhoid fever, dysentery, infectious hepatitis, and nonspecific gastroenteritis (Seabloom, Plews, & Cox, 1989).

Chemicals and Waste

In response to rising demand for chemicals in products and processes, the international chemical industry has grown dramatically since the 1970s. Global chemical output increased by a factor of 25 between 1970 and 2010, from an estimated US\$171 billion to US\$4120 billion. Countries, manufacturers and the international community have made some progress in reducing chemical risks over the past four decades using norms, rules and regulations. However, greater efforts are needed to achieve the Johannesburg 2002 goal to use and produce chemicals in ways that do not lead to significant adverse impacts on human health and the environment (UN, 2002). An issue of particular concern is the increasing amounts of marine litter and plastic debris that end up in waterways and the ocean, and their potential impact on human health and the environment (UNEP, 2011a). The volume of plastics produced in the world has risen sharply in the past decades, reaching 280 million tons in 2011. Approximately 100 kg of plastic materials per person per year is used in North America and Europe. This is expected to increase to 140 kg by 2015. The average is much lower in rapidly developing countries such as those in Asia, but is increasing from 20 kg per person in 2005 to an expected 36 kg by 2015 (UNEP, 2011a).

Solid Waste

The most common problem in tourism areas is the littering of debris on the landscape. This is due to large number of people using the area of picnicking. Improper disposal of solid waste from hotel restaurants, and resorts generate both litter and environmental health problems from vermin, disease and pollution. It can also lead to the degradation of tourist sites. In areas with high concentrations of tourist activities and appealing natural attractions, waste disposal is a serious problem and improper disposal can be a major despoiler of the natural environment, rivers, scenic areas, and roadsides. For example, cruise ships in the Caribbean are estimated to produce more than 70,000 tons of waste each year. Solid waste and littering can degrade the physical appearance of the water and shoreline and cause the death of marine animals (UNEP, 1997).

Alteration and fragmentation of ecosystem

An ecosystem is a geographic area including the entire living organism their physical surroundings such as soil as soil, water, and air and the natural cycles that sustain them. Attractive landscape sites, such as sandy beaches in Goa, Maharashtra, Kerala, TamilNadu, lakes, riversides, and mountaintops and slopes, are often transitional Zones, characterized by species-rich ecosystems. The threats to and pressures on these ecosystems are often severe because such places are very attractive to both tourists and developers. Ecosystems and natural habitat can be damaged by tourist infrastructure, tourist activities, recreational boating, and the cruise industry. Recreational boats and cruise vessels can damage aquatic vegetation by cutting it with their propellers or otherwise damaging it when

running aground. Wetlands have been destroyed in order to build tourist-related infrastructure, such as airports, roads, and marinas (Andereck, 1993). For example, in Jamaica over 700 acres of wetlands have been destroyed since the 1960s for tourism development (Bacon, 1987). When snorkeling and hiking, tourists can damage ecosystems by littering, and trampling coral and vegetation. This type of damage is cumulative in nature. One or two tourists may not cause visible harm, but hundreds over time can do substantial damage.

Impacts on wildlife

Wildlife can be adversely affected by the construction and maintenance of tourist infrastructure, and by tourist activities. Impacts from tourist infrastructure can be direct, such as when development in lower elevations of mountain resorts restricts the migratory range of certain wildlife, or indirect, such as when marine turtles are disoriented by automobile headlights and resort illumination (Gartner, 1996). The two primary ways in which tourist activities disturb wildlife are by altering their eating habits and feeding patterns, and by altering their habitat. Feeding patterns are altered directly by tourists feeding animals, and indirectly by littering, which encourages wildlife to scrounge for food (Mathieson & Wall, 1982). Wildlife habitat is altered by tourists trampling and by the use of off-road vehicles.

Aesthetic and cultural impacts

Tourism can diminish the aesthetic appeal of a destination through the construction of buildings that clash with the surrounding environment, creating "architectural" or "visual" pollution (Andereck, 1993; Mathieson & Wall, 1982). The high-rise hotels along the coastal zone of Atlantic City and Miami are examples, as are several high-rise hotels in Jerusalem, whose construction arguably damaged the city's architectural beauty (Bosselman, 1978). Often tourism fails to integrate its structures with the natural features and indigenous architectural of the destination. Large, dominating resorts of disparate design can look out of place in any natural environment and may clash with the indigenous structural design.

Loss of biological diversity

a) It threatens our food supplies, opportunities for recreation and tourism, and sources of wood, medicines and energy.
b) It interferes with essential ecological functions such as species balance, soil formation, and greenhouse gas absorption.
c) It reduces productivity of ecosystems.
d) It destabilizes ecosystems and weakens their ability to deal with natural disasters such as floods, droughts, and hurricanes, and with human-caused stresses, such as pollution and climate change. Tourism, especially nature tourism, is closely linked to biodiversity and the attractions created by a rich and varied environment. It can also cause loss of biodiversity when land and resources are strained by excessive use, and when impacts on vegetation, wildlife, mountain, marine and coastal environments and water resources exceed their carrying capacity. This loss of biodiversity in fact means loss of tourism potential. Introduction of exotic species, which tourists and suppliers can bring in species that are not native to the local environment, can cause enormous disruption and even destruction of ecosystems (WWF, 1992; WWF, 1994). The world's biodiversity continues to decline at alarming rates. Measured by the Red List Index, the status of all species groups with known trends is deteriorating in regard to their extinction threat, expressed in seven classes ranging from Least Concern to Extinct. This threat is most severe for corals, due to increased bleaching, ocean acidification, and other effects linked to climate change, followed by amphibians, birds and mammals. The status of mammals has deteriorated most dramatically in South-East Asia, while birds are most threatened in Oceania, largely because of invasive species introduced by humans (UNEP-WCMC, 2010). There are large gaps in systematic monitoring of biodiversity worldwide, but increasingly co-ordinate efforts are being made to address these gaps (Pereira et al., 2013). The international community has set targets for 2020 of 17 per cent for terrestrial and 10 per cent for coastal and marine protected areas (CBD, 2010). The need for protected areas to be managed effectively and equitably, as well as the need for proper data and indicators to monitor progress towards meeting these targets, is being emphasized.

Depletion of the ozone layer

The ozone layer, which is situated in the upper atmosphere (or stratosphere) at an altitude of 12-50 kilometers, protects life on earth by absorbing the harmful wavelengths of the sun's ultraviolet (UV) radiation, which in high doses is dangerous to humans and animals. For example, one of the reasons scientists have put forward for the global decrease of amphibian populations is increased exposure to UV radiation. Ozone depleting substances such as CFCs (chlorofluorocarbon) and halo shave contributed to the destruction of this layer. The tourism industry may be part of the problem; direct impacts start with the construction of new developments and continue during daily

management and operations. Refrigerators, air conditioners and propellants in aerosol spray cans, amongst others, contain ozone depleting substances and are widely used in the hotel and tourism industry. Emissions from jet aircraft are also a significant source of ozone depleting substances. Scientists predict that by 2015 half of the annual destruction of the ozone layer will be caused by air travel (UNEP, 1997; UNEP, 1998). In the last 20 years, through implementation of the Montreal Protocol, consumption of ozone-depleting substances has been reduced by over 98 per cent – a major success story. Since most of these substances are potent greenhouse gases, a significant contribution has also been made to protecting the global climate system. Reductions achieved to date leave hydro chlorofluorocarbons (HCFCs) as the largest group of substances remaining to be phased out under the Protocol. Governments are considering an amendment to the Protocol to address hydro fluorocarbons (HFCs), a class of chemicals with global warming potential often used as substitutes for certain ozone-depleting substances. The phase-out period for the other main categories of ozone-depleting substances is ending. Closer attention is currently being paid to several small classes of exempted uses of these substances, as well as to environmentally safe management and the destruction of existing ozone-depleting substances, such as those in obsolete stockpiles and in equipment like air conditioning and refrigerators.

Climate change and energy

Climate scientists now generally agree that the Earth's surface temperatures have risen steadily in recent years because of an increase in the so-called greenhouse gases in the atmosphere, which trap heat from the sun. One of the most significant of these gases is carbon dioxide (CO₂), which is generated when fossil fuels, such as coal, oil and natural gas are burned and when there are changes in land use, such as deforestation. In the end, accumulation of CO₂ and other greenhouse gases in the atmosphere can cause global climate change a process that may already be occurring. Air travel itself is a major contributor to the greenhouse effect. Passenger jets are the fastest growing source of greenhouse gas emissions. The number of international travelers is expected to increase from 594 million in 1996 to 1.6 billion by 2020, adding greatly to the problem unless steps are taken to reduce emissions (WWF, 1992). Global CO₂ emissions from fossil fuel combustion have continued to increase in recent years, despite countries' existing commitments and economic crises in various parts of the world. They reached 32.1 billion tones in 2009. This increase is occurring largely in the Asia and the Pacific region, where per capita emissions are approaching the world average although they are still below those in Europe, West Asia, and particularly North America. Growth in emissions causes higher CO₂ concentrations in the atmosphere and rising global temperatures. 2012 was one of the ten warmest years on record, as well as the 36th year in a row in which temperatures exceeded the long-term average. The continued increase in CO₂ emissions indicates widening divergence from a trajectory that would make it possible to limit global warming to the 2°C needed to stay within safe planetary limits. Keeping global temperature rise below 2°C has become the basic goal of international climate change negotiations. Greenhouse gas emissions are largely produced by the combustion of fossil fuels for industrial production, heating and transport, in addition to deforestation and other land use changes. Fossil fuels continue to dominate global energy supply. Significant investments in more sustainable forms of energy, notably solar and wind have resulted in impressive growth of renewable energy use, but the overall share of renewable is still modest compared to that of fossil fuels at 12.9 per cent of overall energy supply.

Marina effects

Development of marinas and breakwaters can cause changes in currents and coastlines. Furthermore, extraction of building materials such as sand affects coral reefs, mangroves, and hinterland forests, leading to erosion and destruction of habitats. In the Philippines and the Maldives, dynamiting and mining of coral for resort building materials has damaged fragile coral reefs and depleted the fisheries (Hall, 2001).

Wildlife disturbance effects

Visitors can intrude upon wildlife in a variety of ways, from their visual presence to their movement, noise, and behavior. Different species will perceive the consequent disturbance in different ways and for different reasons. Wildlife tolerance and response, and any impact consequence, will vary among different species, settings and times. Factors contributing to these variations can include different feeding patterns; territoriality; breeding seasons and behaviors; lifecycle maturity; alarm behaviors; and ecological niche competition. Some visitor effects, such as trampers passing by, may be incidental to wildlife, whereas others, such as ecotourism visits or photography, may be specifically directed at wildlife. Additional visitor-related effects can also arise from the ways in which wildlife responds to the presence of staff; any of their associated construction, maintenance and research activities; and the effects related to the presence of facilities and structures.

Harmful external material effects

When visitors come to a natural environment, they can import harmful external material, substances, or biota. Visitors may accidentally introduce hazard sources such as exotic weeds, predators, and diseases. They may also introduce hazards from negative behaviors such as fuel leakage or disposal; soap chemicals from washing; littering; bringing dogs; or inappropriate fire practices. Similar hazards arise from the activities of management staff, both direct and indirect, in facility provision and maintenance.

Sewage

Construction of hotels, recreation and other facilities often leads to increased sewage pollution. Wastewater pollutes seas and lakes surrounding tourist attractions, damaging the flora and fauna. Sewage runoff causes serious damage to coral reefs because it contains many nutrients and it stimulates the growth of algae, which cover the filter-feeding corals, hindering their ability to survive. Changes in salinity and transparency can have wide-ranging impacts on coastal environments. In addition, sewage pollution can threaten the health of humans and animals.

RESULTS AND DISCUSSION

The negative Environmental Impacts of tourism are:

- The negative impacts of tourism development can gradually destroy the environmental resources on which it depends.
- Negative impacts from tourism occur when the level of visitor use is greater than the environment's ability to cope with this use within the acceptable limits of change.
- It can put enormous pressure on an area and lead to impacts such as: soil erosion, increased pollution, discharges into the sea, natural habitat loss, increased pressure on endangered species and heightened vulnerability to forest fires.
- The tourism industry generally overuses water resources for hotels, swimming pools, golf courses and personal use of water by tourists.
- This can result in water shortages and degradation of water supplies, as well as generating a greater volume of wastewater.
- Golf course maintenance can also deplete fresh water resources.
- If the water comes from wells, over-pumping can cause saline intrusion into groundwater.
- Tourism can create great pressure on local resources like energy, food, and other raw materials that may already be in short supply.
- Increased construction of tourism facilities has increased the pressure on resources and on scenic landscapes.
- Forests often suffer negative impacts of tourism in the form of deforestation caused by fuel wood collection and land clearing.
- Tourism can cause the same forms of pollution as any other industry: Air emissions, Noise, Solid waste and littering, Releases of sewage, Oil and chemicals, Even architectural/visual pollution.
- Transport by air, road, and rail is continuously increasing in response to the rising number of tourists and their greater mobility.
- Air pollution from tourist transportation has impacts on the global level, especially from CO₂ emissions related to transportation energy use.
- Noise pollution from airplanes, cars, buses.
- Solid waste and littering can degrade the physical appearance of the water and shoreline and cause the death of marine animals.
- Construction of hotels, recreation and other facilities often leads to increased sewage pollution.
- Wastewater has polluted seas and lakes surrounding tourist attractions, damaging the flora and fauna.
- Sewage runoff causes serious damage to coral reefs because it stimulates the growth of algae.

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