

# ENVIRONMENTAL IMPACT OF TOURISM

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## ABSTRACT

*Tourism is an important sector to any country for the development of the economy. But tourism industry is directly related to the environment. Tourism contributes both positively and negatively to the environment. It involves many activities that can have adverse environmental effects. Many of these impacts are linked with the construction of general infrastructure such as roads and airports, and of tourism facilities, including resorts, hotels, restaurants, shops, golf courses and marinas. The negative impacts of tourism development can gradually destroy environmental resources on which it depends. On the other hand, tourism has the potential to create beneficial effects on the environment by contributing to environmental protection and conservation. It is a way to raise awareness of environmental values and it can serve as a tool to finance protection of natural areas and increase their economic importance. This paper describe that the effects of tourism on natural resources, environmental pollution, physical environment and tourist activities in the national park. In addition, we explain environmental impacts of tourism on global scale, positive and negative impacts of tourism and, finally, how tourism can contribute to environmental conservation.*

**Keywords:** *Tourism, Environmental impacts, Sustainability.*

## INTRODUCTION

Tourism is one of the world's fastest growing industries as well as the major source of foreign exchange earning and employment for many developing countries, and it is increasingly focusing on natural environments. However, tourism is a double-edged activity. It has the potential to contribute in a positive manner to socio-economic achievements but, at the same time, its fast and sometimes uncontrolled growth can be the major cause of degradation of the environment and loss of local identity and traditional cultures. Biological and physical resources are in fact the assets that attract tourists. However, the stress imposed by tourism activities on fragile ecosystems accelerates and aggravates their depletion. Paradoxically, the very success of tourism may lead to the degradation of the natural environment: by depleting natural resources tourism reduces the site attractiveness to tourists, the very commodity that tourism has to offer.

In considering the role of tourism in the sustainable use of biological resources and their diversity, it is important that the potential adverse impacts of tourism are fully considered. These are roughly divided into environmental impacts and socioeconomic impacts, the latter generally being those imposed on local and indigenous communities. Although such impacts on biological

resources may be less easy to quantify and analyze systematically, they may be at least as important as, if not more important than, environmental impacts in the long term.

Direct use of natural resources, both renewable and non-renewable, in the provision of tourist facilities is one of the most significant direct impacts of tourism in a given area. Land use for accommodation and infrastructure provision, the choice of the site, the use of building materials are all essential factors. Deforestation and intensified or unsustainable use of land also cause erosion and loss of biodiversity. Direct impact on the species composition and on wildlife can be caused by incorrect behaviors and unregulated tourism activities (e.g. off-road driving, plant-picking, hunting, shooting, fishing, scuba diving). Moreover, tourists and tourist transportation means can increase the risk of introducing alien species and the manner and frequency of human presence can cause disturbance to the behavior of animals. Construction activities related to tourism can cause enormous alteration to wildlife habitats and ecosystems.

Tourism has for many years been focused on mountain and coastal areas. Pressures from tourism activities on biological resources and their diversity are enormous and includes: erosion and pollution from the construction of hiking trails, bridges in high mountains, camp sites, chalet and hotels. Tourism activities have a major impact also on the marine and coastal environment, the resources they host and the diversity of those resources. Most often, those impacts are due to inappropriate planning, irresponsible behavior by tourists and operators and/or lack of education and awareness of the impacts by, for example, tourist resorts along the coastal zones.

Tourism is also a water-intensive activity with a large production of waste. The extraction of groundwater by some tourism activities can cause desiccation, resulting in loss of biological diversity. Moreover, the disposal of untreated effluents into surrounding rivers and seas can cause eutrophication and it can also introduce a large amount of pathogens into the water body. Disposal of waste produced by the tourism industry may cause major environmental problems.

Sustainable tourism development always needs to respect the environment and refer to accepted principles of sustainability. It must be planned to make balanced use of the resources of any site, thus avoiding negative effects, reducing visitor satisfaction, or adversely impacting the local society, economy and culture. Sometimes it may be difficult to quantify limits, but they are essential for sustainable tourism. Thus, if it is to maintain the main elements on which it is based, the tourism sector needs to invest in the maintenance of the natural environment. If properly planned, tourism can become a positive force for conservation and environmental protection, and economic development.

## **OBJECTIVES**

The specific objectives were the followings

- a. To see the positive and negative impact of tourism on environment.
- b. To develop a model to minimize the negative impact of tourism on environment.

- c. To determine the direct impact of tourist activities in the respective tourism areas.
- d. To generate employment and self-employment opportunities for the poor and disadvantaged section of the community by involving them directly in tourism services.
- e. To promote environmental awareness, conservation and sustainable use of natural resources.

## **RESEARCH METHODOLOGY**

The study has been based on secondary information. The data has been collected from various website, books, magazines, research papers and journals.

## **DIRECT ENVIRONMENTAL IMPACTS**

### **Depletion of Natural Resources**

Tourism development can put pressure on natural resources when it increases consumption in areas where resources are already scarce.

### **Water Resources**

Water, and especially fresh water, 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 waste water.

Golf course maintenance can also deplete fresh water resources. In recent years golf tourism has increased in popularity and the number of golf courses has grown rapidly. Golf courses require an enormous amount of water every day and, as with other causes of excessive extraction of water, this can result in water scarcity. If the water comes from wells, over pumping can cause saline intrusion into groundwater. Golf resorts are more and more often situated in or near protected areas or areas where resources are limited, exacerbating their impacts.

### **Local Resources**

Tourism can create great pressure on local resources like energy, food, and other raw materials that may already be in short supply. Greater extraction and transport of these resources exacerbates the physical impacts associated with their exploitation. Because of the seasonal character of the industry, many destinations have ten times more inhabitants in the high season as in the low season. A high demand is placed upon these resources to meet the high expectations tourists often have (proper heating, hot water, etc.).

### **Land Degradation**

Important land resources include minerals, fossil fuels, fertile soil, forests, wetland and wildlife. Increased construction of tourism and recreational facilities has increased the pressure on these resources and on scenic landscapes. Direct impact on natural resources, both renewable and nonrenewable, in the provision of tourist facilities can be caused by the use of land for accommodation and other infrastructure provision, and the use of building materials.

Forests often suffer negative impacts of tourism in the form of deforestation caused by fuel wood collection and land clearing.

## **POLLUTION**

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.

### **Air Pollution**

The main sources of air pollution in India and elsewhere are mineral dust and gases, automobiles, thermal power plants and industries. Any contamination in the air may not only cause many diseases and loss of vision but can also disturb the whole atmospheric system. Air pollution can also cause acid rain which damages soil, vegetation and aquatic life of the region.

The heavy use of automobiles causes pollution and smog from automobile emissions. This has become a serious problem in almost all the countries—developed and developing.

The bad urban air burns the eyes, damages lung tissues and increases the levels of lead and other poisons in the human body and agricultural products. It is not known how many deaths occur nationally because of air pollution.

### **Water Pollution**

Contamination of water from any external source that makes it harmful to life is known as water pollution. With the fast industrial development and modern civilization, the problem of water pollution is increasing day by day. The major sources of water pollution are domestic effluents, agricultural effluents, sewage disposal, industrial wastes, radioactive wastes and oil leakages, etc.

All the Indian rivers, including the holy river Ganga, have become highly polluted today. Even, the Ganga Action Plan to control its water from pollution has not been proved successful. The impact of water pollution is widespread. It causes many severe water-borne diseases, such as diarrhea, trachoma, intestinal worms, hepatitis, jaundice, etc.

According to WHO, 21 per cent of all communicable diseases in India are water-borne diseases. Oil is the major pollutant of the sea water. Huge tankers routinely dump oil into the sea. This act of dumping poisons smothers or coats sea plants and animals and kills them.

### **Noise Pollution**

All sounds are not noise. Noise is any sound that is unwanted and goes beyond its certain limit, i.e., above 80 decibels. Harsh sounds of lightning and thunder, noise produced by machines, automobiles, railways, aero planes and the blaring sound of loudspeakers and some musical instruments come under the category of noise pollution.

More and more noise is the creation of modern civilization and has now become a major environmental pollutant, specially in urban areas. The most notable effect of noise pollution is on hearing. It may cause total loss of hearing that may result in the reduction of worker's efficiency.

At the higher levels, it may lead to physical and psychological damage. There is evidence that noise is one of the major causes of stress and anxiety. It also causes headaches and irritability. It may also affect blood pressure and heart beat. Air, water and noise pollutions are very common which are creating havoc for all types of life. They have disastrous transnational consequences.

## **SOLID WASTE & LITTERING**

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. Today some cruise lines are actively working to reduce waste-related impacts. Solid waste and littering can degrade the physical appearance of the water and shoreline and cause the death of marine animals.

In mountain areas, trekking tourists generate a great deal of waste. Tourists on expedition leave behind their garbage, oxygen cylinders and even camping equipment. Such practices degrade the environment with all the detritus typical of the developed world, in remote areas that have few garbage collection or disposal facilities.

### **Sewage**

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, which cover the filter-feeding corals, hindering their ability to survive. Changes in salinity and siltation can have wide-ranging impacts on coastal environments. And sewage pollution can threaten the health of humans and animals.

### **Aesthetic Pollution**

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.

A lack of land-use planning and building regulations in many destinations has facilitated sprawling developments along coastlines, valleys and scenic routes. The sprawl includes tourism facilities themselves and supporting infrastructure such as roads, employee housing, parking, service areas, and waste disposal.

## **PHYSICAL IMPACTS**

Attractive landscape sites, such as sandy beaches, lakes, riversides, and mountain tops and slopes, are often transitional zones, characterized by species-rich ecosystems. Typical physical impacts include the degradation of such ecosystems.

An ecosystem is a geographic area including all the living organisms (people, plants, animals, and microorganisms), their physical surroundings (such as soil, water, and air), and the natural cycles that sustain them. The ecosystems most threatened with degradation are ecologically fragile areas such as alpine regions, rain forests, wetlands, mangroves, coral reefs and sea grass beds. The threats to and pressures on these ecosystems are often severe because such places are very attractive to both tourists and developers.

Physical impacts are caused not only by tourism-related land clearing and construction, but by continuing tourist activities and long-term changes in local economies and ecologies.

### **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 headlight sand resort illumination. 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. Wildlife habitat is altered by tourists' trampling and by the use of off-road vehicles

### **Depletion of the ozone layer**

The ozone layer, which is situated in the upper atmosphere (or stratosphere) at an altitude of 12 -50kilometers, 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 (ODSs) 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 ODSs and are widely used in the hotel and tourism industry. Emissions from jet aircraft are also a significant source of ODSs. Scientists predict that by 2015 half of the annual destruction of the ozone layer will be caused by air travel.

### **Climate Change**

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 (CO<sub>2</sub>), which is generated when fossil fuels, such as coal, oil and natural gas are burned (e.g. in industry, electricity generation, and automobiles) and when there are changes in land use, such as deforestation. In the long run, accumulation of CO<sub>2</sub> 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.

### **Physical impacts of tourism development**

#### **Construction activities and infrastructure development**

The development of tourism facilities such as accommodation, water supplies, restaurants and recreation facilities can involve sand mining, beach and sand dune erosion, soil erosion and extensive paving. In addition, road and airport construction can lead to land degradation and loss of wildlife habitats and deterioration of scenery.

#### **Deforestation and intensified or unsustainable use of land**

Construction of ski resort accommodation and facilities frequently requires clearing forested land. Coastal wetlands are often drained and filled due to lack of more suitable sites for construction of tourism facilities and infrastructure. These activities can cause severe disturbance and erosion of the local ecosystem, even destruction in the long term.

### **Marina development**

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 that sustain local people and attract tourists.

## **POSITIVE IMPACTS**

Tourism -- particularly nature and ecotourism -- helps promote conservation of wildlife and natural resources such as rain forests, as these are now regarded as tourism assets. It also helps generate funding for maintaining animal preserves and marine parks through entrance charges and guide fees. By creating alternative sources of employment, tourism reduces problems such as over-fishing and deforestation in developing nations.

## **HOW TOURISM CAN CONTRIBUTE TO ENVIRONMENTAL CONSERVATION**

### **Improved Environmental Management and Planning**

Sound environmental management of tourism facilities and especially hotels can increase benefits to natural areas. But this requires careful planning for controlled development, based on analysis of the environmental resources of the area. Planning helps to make choices between conflicting uses, or to find ways to make them compatible. By planning early for tourism development, damaging and expensive mistakes can be prevented, avoiding the gradual deterioration of environmental assets significant to tourism.

Cleaner production techniques can be important tools for planning and operating tourism facilities in a way that minimizes their environmental impacts. For example, green building (using energy-efficient and non-polluting construction materials, sewage systems and energy sources) is an increasingly important way for the tourism industry to decrease its impact on the environment. And because waste treatment and disposal are often major, long-term environmental problems in the tourism industry, pollution prevention and waste minimization techniques are especially important for the tourism industry.

### **Environmental Awareness Raising**

Tourism has the potential to increase public appreciation of the environment and to spread awareness of environmental problems when it brings people into closer contact with nature and the environment. This confrontation may heighten awareness of the value of nature and lead to environmentally conscious behavior and activities to preserve the environment. If it is to be

sustainable in the long run, tourism must incorporate the principles and practices of sustainable consumption. Sustainable consumption includes building consumer demand for products that have been made using cleaner production techniques, and for services including tourism services that are provided in a way that minimizes environmental impacts. The tourism industry can play a key role in providing environmental information and raising awareness among tourists of the environmental consequences of their actions. Tourists and tourism-related businesses consume an enormous quantity of goods and services; moving them toward using those that are produced and provided in an environmentally sustainable way could have an enormous positive impact on the planet's environment.

### **Protection and Preservation**

Tourism can significantly contribute to environmental protection, conservation and restoration of biological diversity and sustainable use of natural resources. Because of their attractiveness, pristine sites and natural areas are identified as valuable and the need to keep the attraction alive can lead to creation of national parks and wildlife parks.

## **CONCLUSION**

Based upon the statements and codes-of-conduct developed by tourism stakeholders, that the environment has been placed on the outline as a major concern of how tourism is to be developed potentially.

Thus all these negative and positive effects of tourism on the environment, brings us to a conclusion that tourism can be treated in negative as well as positive aspect in regards to the environment. The negative impacts can be reduced by taking initiative towards conserving natural resources. There are various tools that can be used to protect the environment like collecting income in the form of taxes. All these examples however show us a positive picture about how the tourism industry and the environment are co-dependent to each other for their mutual existence. Though there are many negative aspects to tourism, we can still say that tourism has the tools to protect, preserve and enhance natural resources and the environment.

Therefore Tourism and natural environment can both co-exist and be mutually beneficial to each other if the tourism industry has the willingness to pull in full support to the conservation efforts of the natural environment. In doing so, it can help maintain the environment and also recover from the negative image that it has built up for itself during the last few decades. Proper and efficient planning and management accompanied by strict implantation, strict rules and regulations, proper interpretation, propagating the idea of sustainable consumption, well planned eco tourism and sustainable tourism and educating the tourist and making them aware of the impacts of their actions which may have negative impacts on the environment are some of the few ways in which tourism sector can contribute in the conservation process of the natural

environment. There cannot be a limit to the extent tourism can contribute to the process and there cannot be an end to its contribution towards environmental conservation because as long as tourism exists, the negative impacts of tourist will be evident on the natural environment. There is no doubt accepting the fact that tourism brings in money. But even then, care must be taken to make sure that the economic growth brought by the tourism industry must contribute to the natural environment processes and the sustainable use of natural resources.

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