

ENVIRONMENTAL DIMENSION OF SUSTAINABLE TOURISM

Environmental Tourism Impacts (Slocum, 2020)

The environment is a key resource for tourism. Tourism and the environment rely on each other for a mutually beneficial relationship. Tourism thrives in a well-preserved environment, while the environment benefits from efforts to protect and maintain it for tourism. The environment includes both natural elements, like climate, land, water, plants, animals, and ecosystems, and man-made features, such as buildings, infrastructure, and historical sites.

The environment can be divided into five (5) connected aspects:

- *Natural features* are the physical elements of a natural landscape that contribute to the beauty and variety of the environment. These include mountains, rivers, valleys, lakes, and coastlines.
- *Wildlife* refers to the living organisms in their natural habitats. These are the flora (plants) and fauna (animals) that play an important role in maintaining the ecosystems. Examples of flora include flowering plants, grass, and forest, while birds, reptiles, insects, and fish are some examples of fauna.
- *Farmed landscapes* are the areas of land used for agriculture and aquaculture. These include fields, orchards, fish farms, and other areas where crops and livestock are cultivated or raised.
- *Built environments* are man-made structures and spaces that are designed to support human activities and development. Examples are buildings (museums, malls, and theaters), infrastructure (roads, bridges, and airports), and public spaces (parks and plazas).
- *Ecological resources* are the materials and elements found in nature that humans use and that are essential for their survival. These are water (rivers, lakes, and oceans), air (atmosphere), and climate (weather patterns and temperature).

An understanding of the relationship between the environment and the tourism industry can help foster economic growth and environmental preservation. By recognizing their value and interconnectedness, strategies can be developed that mutually benefit tourism and the environment.

Positive Environmental Impacts of Tourism (Stainton, 2023)

Tourism benefits the environment by raising awareness and funding preservation and conservation efforts, which help protect natural areas and wildlife, enabling them to be experienced by future generations. It also promotes eco-friendly practices and raises awareness about the importance of environmental preservation among tourism stakeholders. The positive environmental impacts of tourism are discussed as follows:

Conservation of Important Natural Areas

Tourism can play a big role in protecting valuable natural areas. By turning these natural areas into tourist attractions, such as national or regional parks, they gain more attention and resources for their preservation. Marine conservation, especially of coral reefs and beaches, is a key focus because these natural sites attract many tourists. As a result, efforts to protect these areas are strengthened, ensuring they remain beautiful and accessible for future visitors while also preserving the environment.

Examples of protected and conserved attractions include the Tubbataha Reef National Marine Park in Palawan, Bongsanglay Natural Park (mangrove forests and swamps) in Masbate, and Mount Pulag National Park in Benguet.

Conservation of Archaeological and Historical Sites

Tourism can encourage the preservation of *archaeological* (locations where remains of past human activities are found, such as ancient ruins and structures) and *historical* (locations with significance due to their association with previous important events, figures, or periods, such as battlefields and museums) sites. When these sites attract tourists, there is a stronger incentive to maintain and protect them. The interest and

revenue generated by visitors help ensure these cultural treasures are preserved for future generations to enjoy and learn from.

The Tagbilaran Archaeological Site in Bohol and Angono Petroglyphs in Rizal are examples of archaeological sites. At the same time, Corregidor Island and Rizal Monument in Rizal Park are examples of historical sites.

Improvement of Environmental Quality

Tourism can contribute to a cleaner environment by helping to manage air, water, and noise pollution, as well as reducing litter and other environmental issues. When tourist attractions are kept clean and visually appealing, they not only attract more visitors but also enhance the overall experience by improving the mood of those who visit. This creates a positive cycle where a clean environment draws more tourists, which in turn supports further environmental improvements.

Batanes, known for its stunning landscapes, traditional Ivatan houses, and pristine environment, is a prime example of this. It has been kept clean and managed for the benefit of the tourists and locals. In 2023, the United Nations World Tourism Organization (UNWTO) included the destination as a member of the UNWTO International Network of Sustainable Tourism Observatories, reflecting the continuous monitoring and maintenance of Batanes stakeholders and Batanes Tourism Hospitality Monitoring Center (BTHMC) of the social, economic, and environmental impacts of tourism to Batanes (Department of Tourism, 2023).

Enhancement of the Environment and Infrastructure

Tourism can improve both rural and urban areas by encouraging the development of well-designed and attractive tourist facilities, like hotels and restaurants. Additionally, tourism can lead to the construction and upgrading of local infrastructure, including airports, roads, sewage systems, waste disposal systems, and telecommunications. These improvements not only support the tourism industry but also benefit local communities by enhancing their overall quality of life and making the area more accessible and appealing.

For example, according to the Tourism Infrastructure and Enterprise Zone Authority (TIEZA), in 2018, tourism growth in Davao City flourished due to being a Meetings, Incentives, Conventions, Exhibitions (MICE) destination and home to various recreational activities such as island hopping, diving, and white-water rafting. This led to upgrades in infrastructure, including the construction of new roads, improvements to the Davao International Airport, and enhanced waste management systems. In 2022, a 25-year tourism road map has been accepted by the government of Davao. The plan constitutes architectural and environmental designs for future infrastructure projects to make the city an even more attractive tourist destination (Davao City Government, 2022).

Increased Environmental Awareness

Tourism can boost environmental awareness among residents, particularly in areas where people may not have much interest or concern for the natural environment. As tourists show interest in and value the local environment, it can inspire communities to recognize the importance of preserving and protecting their natural surroundings. This heightened awareness can lead to better conservation efforts and a stronger commitment to maintaining the area's environmental health.

For example, Donsol, Sorsogon is famous for being one of the best places in the world to see and swim with whale sharks (butanding). Tourism flourished in the town because of the coming of these endangered species due to the abundance of plankton, their primary food source. Hence, the local government implemented strict guidelines in terms of maintaining the cleanliness of the environment, mainly the waters, and protecting them. Some of these guidelines include the no-touch policies to the whale sharks to avoid disturbing them, and responsible boat practices such as following designated routes and maintaining a slow and steady pace to avoid injuring them and overcrowding the animals. These sustainable practices in Donsol demonstrate a strong commitment to preserving the area's environmental health (World Wide Fund, 2024).

Negative Environmental Impacts of Tourism (Stainton, 2023)

Albeit the positive environmental impacts of tourism, the increase in activities may lead to various environmental issues, such as the following:

Pollution

Pollution is the introduction of harmful substances called pollutants into the environment. These pollutants can come from human activities, such as industrial production, vehicle smoke emissions, and improper waste disposal, which lead to health and environmental issues. The following are the different types of pollution:

- *Air pollution* is the contamination of the atmosphere by harmful chemicals that modify its natural characteristics. This can occur from the heavy use of vehicles like cars, buses, and motorcycles by tourists at popular sites. For example, in areas with high tourist traffic, such as city centers or popular landmarks, vehicle exhaust can contribute to poor air quality.
- *Water pollution* occurs when harmful substances contaminate bodies of water, resulting in a water quality that is toxic to humans and the environment. This can happen if hotels, resorts, and other tourist facilities lack proper sewage disposal systems. For instance, untreated wastewater from these establishments can contaminate local rivers, lakes, or coastal waters. Pollution can also come from motorboats leaking oil or gasoline into the water, especially in areas with heavy tourist water activities.
- *Noise pollution* is created by the high concentration of tourists and associated activities. This includes noise from recreation vehicles, airplanes, motorboats, amusement parks, and racetracks. For example, tourist-heavy areas with frequent motorboat activities or amusement parks can generate significant noise, affecting the tranquility of the environment and local communities.
- *Visual Pollution* occurs because of the following:
 - Poorly designed buildings: Hotels and other tourist facilities that do not match the local architectural style can disrupt the visual harmony of an area. For example, a modern high-rise building in a historic district can clash with traditional architecture.
 - Unsuitable building materials: Using materials that are not in keeping with local aesthetics can create visual discord. For example, bright, flashy materials in a natural setting might stand out in an unappealing way.
 - Inappropriate landscaping: Landscaping that does not blend with the local environment, such as non-native plants on beaches, can detract from the area's natural beauty.
 - Unattractive advertising signs: Poorly designed or excessive signage can clutter the visual landscape. For instance, loud or oversized signs in a scenic area can be visually disruptive.
 - Overhead electric and telephone lines: Visible utility wirings and electric/communication posts can sometimes disrupt scenic views and the natural landscape.
 - Poor building maintenance: Neglected buildings with peeling paint or dilapidated structures can negatively affect the visual appeal of an area. For example, a once-elegant resort that is now in bad condition can detract from a destination's overall attractiveness.

Waste Disposal Problems

When hotels, restaurants, and resorts do not properly manage their waste, it leads to littering and pollution. This can attract pests like rats and cause health problems while also contaminating the environment. For example, the island of Boracay was temporarily shut down in 2018 due to serious waste management issues, including raw sewage being discharged directly into the sea, severely impacting marine health and cleanliness. This led to businesses and workers being out of work, except for residents in the area, to clean up

the beaches and implement proper sewage systems. To maintain the rehabilitated destination, the different businesses must now adhere to stricter local government policies in proper sewage systems. Moreover, Boracay Water (a subsidiary of Manila Water and TIEZA) allocated a budget for the improvement of water and wastewater services in the destination to maintain continued service improvements in the water and waste management system of Boracay (Manila Water, 2024).

Ecological Disruption

When tourists use natural areas too much, they can harm the environment. This includes damaging plants, causing deforestation, and disturbing wildlife. Overuse can disrupt the balance of ecosystems. For example, the Philippine Tarsier and Wildlife Sanctuary in Corella, Bohol, is a project foundation to protect the Philippine Tarsier, an endangered species, from extinction. This includes all the necessary flora and fauna for the habitat of the Tarsier. When tourists visit the attraction, the disruptions they may cause include too much noise and flashes from their cameras since they have sensitive eyes, and touching them will cause them too much stress. Hence, the attraction limits the number of tourists and operating hours of the sanctuary to avoid disrupting their sleeping patterns during the day (Philippine Tarsier Foundation, Inc., n.d.).

Environmental Hazards

Poor design and planning of tourist facilities can lead to serious environmental problems, such as erosion, landslides, and flooding, and can also damage the facilities themselves. In areas like Baguio City, poorly planned development, such as in the city's drainage, has been blocked by accumulated garbage when human settlements have intruded on the narrower waterways. This contributed to increased flooding and landslides, worsening damage from heavy rains and typhoons (Inquirer, 2023).

Land Use Problems

Tourism development can lead to significant land use problems when proper planning is not in place. For instance, building accommodation establishments too close to the shoreline can make these structures vulnerable to damage from natural forces like strong waves and storms, which can destroy the buildings and might also disturb marine ecosystems. Expansion of tourism facilities into recreational areas for tourists in rural areas can also reduce local agricultural land, which negatively affects the area's food production capabilities.

Managing these impacts involves implementing sustainable tourism practices, such as reducing waste, minimizing resource use, and supporting conservation efforts to ensure that tourism benefits both the environment and local communities.

The Role of Tourism on the Sustainability of the Environment (Pongponrat, 2022)

For tourism to be sustainable, it must protect the environment, which is its key resource. If tourism grows without proper rules, it can harm the environment. Tourism must play a significant role in shaping the environment, primarily its use and its management. Below are the roles that tourism must play regarding the conservation and sustainability of the environment:

- **Promoter.** Tourism should advocate for and encourage sustainable environmental practices. This involves actively supporting and publicizing efforts that contribute to environmental conservation and sustainability. Tourism stakeholders should actively support and make efforts that contribute to environmental conservation, such as reducing waste, water conservation, using renewable energy resources, and practicing recycling to help raise awareness and encourage others to include sustainable practices everywhere.
- **Supporter.** Tourism should support environmental conservation projects and initiatives. This can involve partnering with conservation groups, funding restoration projects, and supporting sustainable practices. The revenues from eco-tourism activities in the attractions can be used to fund research

and conservation programs, supporting their preservation. Examples include hotels joining beach or river cleanup programs, farms initiating community garden projects where guests can help plant and maintain vegetable and herb gardens, or other businesses joining tree planting activities to help provide habitat for wildlife and help control erosion.

- **Educator.** Tourism should inform and raise awareness about environmental issues and sustainable practices among tourists, local communities, and industry stakeholders. For example, tourists are oriented on what should be done and what should not be done while in a certain attraction. In the Puerto Princesa Subterranean River, tourists need to go to the tourism office to pay for the environmental and boat fees and listen to the audio guides that can be viewed on their mobile phones to educate them about the surroundings before they are allowed to go on a tour.
- **Regulator.** Tourism should take the initiative to establish and enforce guidelines and standards to ensure that tourism activities do not harm the environment. This involves creating and implementing policies that promote sustainable tourism practices. For example, the Bohol Bee Farm ensures that all its food offerings are organically made; hence, it sources freshly harvested ingredients from its farm.
- **Monitor.** Government agencies and non-government organizations focused on environment conservation should continuously track and evaluate the environmental impacts of tourism activities. This involves assessing the effectiveness of sustainability measures and identifying areas for improvement. Monitoring programs in different destinations can help track changes in visitor impact on the attractions and adjust management practices to mitigate any negative effects towards them.

By fulfilling these roles, tourism can effectively contribute to environmental conservation and sustainability, ensuring that development aligns with environmental protection goals and benefits both visitors and local communities.

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