UNIT 4-IMPACTS OF VARIOUS SECTORS

- 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.
- **2. DEPLETION OF NATURAL RESOURCES**
- Tourism development can put pressure on natural resources when it increases consumption in areas where resources are already scarce.
- **2.1. 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.
- In dry and hot regions like the Mediterranean, the issue of water scarcity is of particular concern. Because of the hot climate and the tendency of tourists to consume more water when on holiday than they do at home, the amount used can run up to 440 liters a day. This is almost double what the inhabitants of an average Spanish city use (UNEP, 1999).

- **2.2. Local Resources**
- Tourism can create great pressure on local resources like energy, food, and other raw materials that may already l in short supply. Greater extraction and transport of these resources exacerbates 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 than in the low season. High demand is placed upon these resources to meet the hi expectations tourists often have (proper heating, hot water, etc.).
- **2.3. Land Degradation**
- Important land resources include minerals, fossil fuels, fertile soil, forests, wetland and wildlife. Increased construct of tourism and recreational facilities has increased pressure on these resources and on scenic landscapes. Direct impact on natural resources, both renewable and non-renewable, in the provision of tourist facilities can be cause 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 l clearing. For example, one trekking tourist in Nepal and area already suffering the effects of deforestation can use four to five kilograms of wood a day (UNEP, 1999).

- **3. 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.
- **3.1. Air Pollution and Noise**
- 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 (lighting, heating, car use, etc.) consumed by an average person per year (ICAO, 2001).
- Transport emissions and emissions from energy production and use are linked to acid rain, global warming and photochemical pollution. Air pollution from tourist transportation has impacts on global level, especially from carbon dioxide (CO_2) emissions related to transportation energy use. And it can contribute to severe local air pollution. Some of these impacts are quite specific to tourist activities. For example, especially in very hot or cold countries, tour buses often leave their motors running for hours while the tourists go out for an excursion because they want to return to a comfortably air-conditions

- **3.2. Solid Waste and Littering**
- In areas with high concentrations of tourist activities and appealing natural attractions, waste disposalis 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).
- **3.3. 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 lots of 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. And sewage pollution can threaten the health of humans and animals.
- **3.4.Aesthetic Pollution**
- Often tourism fails to integrate its structures with the natural features and indigenous architectural of the destination. Large resorts of disparate design may look out of place in a 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.

- **4. PHYSICAL IMPACTS**
- Attractive landscape sites, such as sandy beaches, lakes, riversides, and mountaintops 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. 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.

4.1. 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 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.

4.2Physical Impacts from Tourist Activities

Trampling. Tourists using the same trail over and over again trample the vegetation and soil, eventually causing damage that canlead to loss of biodiversity and other impacts. Such damage can be even more extensive when visitors frequently stray off established trails. Anchoring and other marine activities: In marine areas (around coastal waters, reefs, beach and shoreline, offshore waters, uplands and lagoons) many tourist activities occur in or around fragile ecosystems. Anchoring, snorkeling, sport fishing and scuba diving, yachting, and cruising are some of the activities that can cause direct degradation of marine ecosystems such as coral reefs,and subsequent impacts on coastal protection and fisheries (Hall, 2001).

5. ENVIRONMENTAL IMPACTS OF TOURISM AT THE GLOBAL LEVEL 5.1. Loss of biological diversity

The effects on loss of biodiversity:

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 (insects, wild and cultivated plants and diseases) that are not native to the local environment can cause enormous disruption and even destruction of ecosystems (WWF, 1992; WWF, 1994).

5.2. 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 (ODSs) such as CFCs (chlorofluorocarbon) and halonshave 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 (UNEP, 1997; UNEP, 1998).

5.3. 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_2), 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, and other greenhouse gases in the atmosphere can cause global climate change a process that may already be occurring.

•Global tourism is closely linked to climate change. Tourism involves the movement of people from their homes to other destinations and accounts for about 50% of traffic movements; rapidly expanding air traffic contributes about 2.5% of the production of CO_2. Tourism is thus a significant contributor to the increasing concentrations of greenhouse gases in the atmosphere.