



Tourism Expansion : increasing threats, or conservation opportunities ?

Tourism generates 11% of global GDP, employs 200 million people but produces 4.8 million tonnes of waste yearly and consumes as much energy as a country the size and development level of Japan. The number of tourists is expected, at least, to double to 1.6 billion by the year 2020. Sustainable management of natural resources and wastes is essential for the well-being of this economic sector and natural ecosystems.

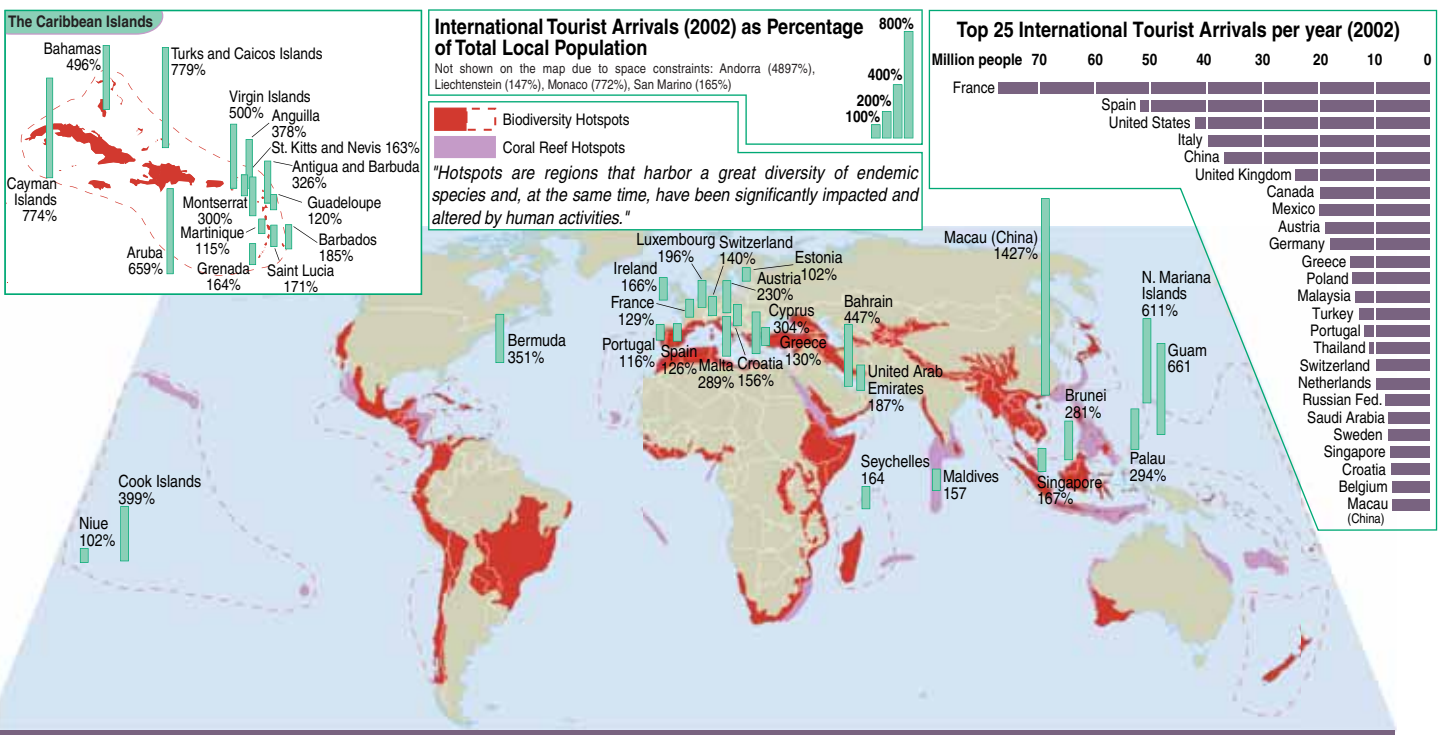
Background

Tourism is a fast-growing sector and an increasing source of pressure on the environment and natural resources. Its constant growth may not always be compatible with sustainable development and, unless properly managed, may actually be harmful to local societies and traditional cultures, including the reduction of overall benefits to the recipient and wider economies.

The chief burdens come from transport, land development, water consumption, excessive energy demand, increased waste generation and impacts on biodiversity. The seasonality of tourism, and the fact that popular destinations often coincide with environmentally-sensitive areas, have resulted in some places becoming victims of their own attraction.

Uncontrolled tourism development has led to a degradation of many ecosystems, particularly in coastal and mountainous areas. Several factors affect the demand for tourism, including increasing leisure time, economic growth, and changes in demographic factors, behaviour and expectations (EEA 2001).

Even if high volume ("mass tourism") has become more accessible as a result of packaged holidays, more and more tourists are gaining interest in low volume, sometimes customised, higher-quality tourism experiences, particularly in natural and cultural sites. For many person today, nature, beauty and calm are the first criteria for choosing a destination, before price.



Impacts on Biodiversity

Biodiversity is essential to human well-being and economic development: an estimated 40% of the global economy is based on biological products and processes (CI and UNEP 2003). However, on a global scale, biodiversity is being lost at a rate higher than that of natural extinction. Ecosystem degradation and biodiversity loss is caused by several factors, including uncontrolled land conversion, pollution, unsustainable harvesting of natural resources, introduction of invasive species and apparent climate change effects.

To determine critically-threatened areas, Conservation International (CI) identified several biodiversity "hot spots", where urgent conservation actions are required (see map on first page). They comprise the Earth's richest and most endangered terrestrial systems, which once covered more than 12% of the Earth's land area, and have cumulatively lost nearly 90% of their original natural vegetation. What remains now accounts for only 1.4% of the planet's terrestrial environment, giving refuge to more than 44% of all plant species and 35% of mammals, birds, reptiles and amphibians as endemics found nowhere else.

Most of these endangered terrestrial systems are also key regions for tourism: an increasing number of biodiversity "hot spot" countries are experiencing impressive tourism growth. Twenty-three countries recorded over 100% growth in the last 10 years. More than half of these receive over one million international tourists per year, while 13% of biodiversity "hot spot" countries receive over five million international tourists per year.

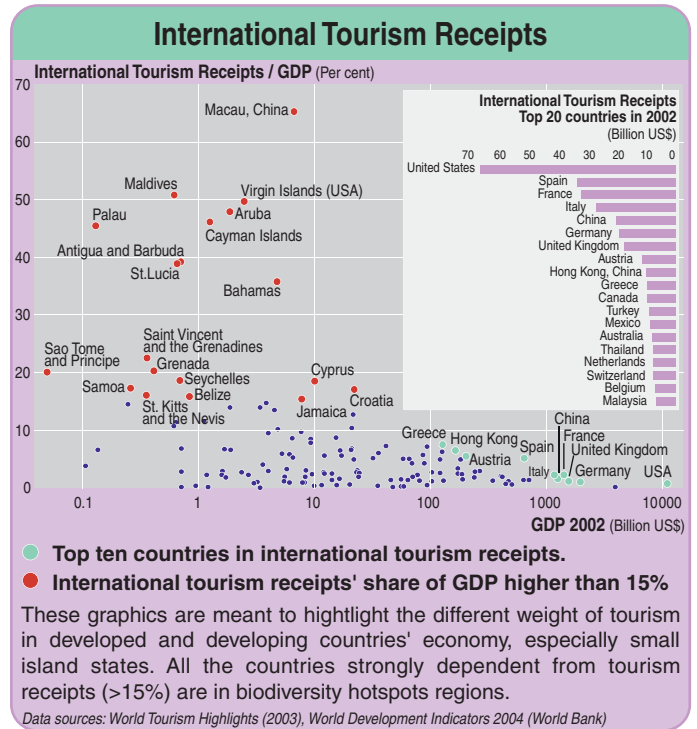
Tourism pressure is extraordinarily high in countries where tourists outnumber local residents in certain places. Tourism development often takes place in a rapid and unplanned manner, resulting in drastic landscape transformation in a very short period of time, including deforestation and drainage of wetlands. Such habitat disruption can result in significant biodiversity losses.

Depletion of Resources

Tourism increases water supply concerns by concentrating water demand in short periods, particularly in dry, sunny holiday destinations where water resources are often relatively scarce. This situation has increased the pressure on conventional resources and results in over-



La Grande Motte, France. Photo: Henri Comte



exploitative practices (see "Water Consumption" box). Furthermore, water infrastructure necessary to supply this very high seasonal demand (reservoirs, water transfer schemes) remains "oversized" during the rest of the year.

Energy consumption of the global tourism sector could reach 5 million GWh per year, close to the yearly total primary energy use of a country like Japan. Consumption levels are linked to the degree of luxury of hotels: one-star hotels consume about 57 kWh per m² per year, and four-star hotels up to 380 kWh per m²/year (IFEN).

Uncontrolled tourism is putting pressure on many of the planet's sensitive locations, especially in Small Island Developing States (SIDS), where low-impact energy sources such as hydro-electricity are often available only in restricted quantities, and where seawater desalination can consume relatively significant amounts of fuel.

Tourism and the Recent Indian Ocean Tsunami

The South Asian tsunami on 26 December 2004 had drastic impacts on Indian Ocean coastal areas. The killer waves left a trail of devastation with over 280 000 killed (EM-DAT, CRED), more than half a million people injured and five million homeless.

The most affected countries are also major tourist destinations (Indonesia, Sri Lanka, Maldives, India and Thailand). The livelihood of entire populations depends on quick rehabilitation of tourism infrastructures. However, the urge for rebuilding should not pre-empt this unique opportunity for improved procedures and infrastructures and to re-build following sustainable criteria, thus ensuring a long-lasting income for these countries.

The Tourism Authority of Thailand (TAT) said that Phuket will be rebuilt with sustainable development in mind. Phuket's best-known beach Patong will be the first, and become a model for future development in Thai coastal tourism areas. Phi Phi Islands offer the Thai authorities an opportunity to re-think development plans and introduce and enforce stricter zoning laws.

The WWF network has called for "green reconstruction:" There are opportunities for sustainable development to be at the heart of the reconstruction effort for tourism development.

The UNEP South Asian Tsunami Disaster Task Force is currently developing guidance materials for national authorities to screen reconstruction projects for possible environmental impacts, and to ensure all projects

Water Consumption

Tourists often use a disproportionate amount of water. Tourists can consume around 300 litres per day while in Europe, the household consumption is around 150 to 200 litres per day. In Granada, for example, the average tourist uses seven times more freshwater than a local person. In Majorca the average tourist consumes 440 litres per day, and luxury tourism 880 litres. In Tunisia, each visitor uses nine times as much water as national residents and in certain Greek islands, like the Cyclades, water demand in summer can be five to ten times higher than in winter. In the Philippines, the quantity of water used for tourism is so high that rice paddy cultivation is threatened by reduced water availability. An average 18-hole golf course uses some 200 000 litres of water a day - enough to supply the irrigation needs of 100 Malaysian farmers (UNEP 2004, Plan Bleu 2004, Tourism Concern).

Pollution

The polluting effects of tourism can cover many aspects of tourist activities. A key issue is the use of transport services, namely road, rail, air and water transport.

In the Mediterranean region, it is estimated that tourism contributes seven per cent of overall pollution. At the same time, growing pollution in these countries is likely to negatively affect the tourism sector.

Travel to and from destinations is responsible for 90% of atmospheric emissions coming from the tourism sector (EEA 2003). A single trans-Atlantic round-trip flight emits about the same amount of CO₂ (730 kg) produced by a household yearly in a country such as Pakistan or Viet Nam (UN Stats). According to the UN Intergovernmental Panel on Climate Change (IPCC), five per cent of global carbon emissions are attributable to air travel (CI and UNEP 2003).

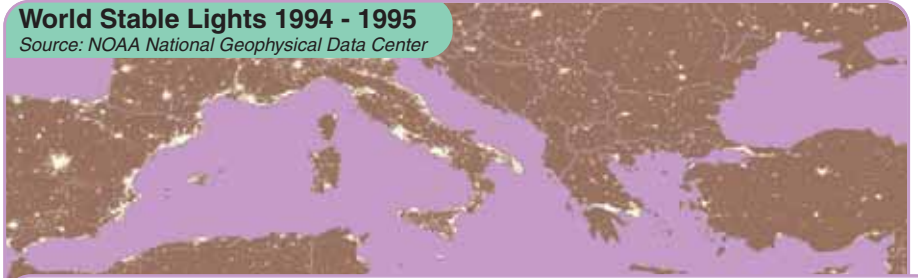
Every tourist in Europe generates at least one kg of solid waste per day (IFEN 2000). Based on 2001 figures, the world's 692.5 million international tourists are likely to have generated close to 4.8 million tonnes of solid waste (UNEP 2003).

An international tourist generates around 180 litres of wastewater per day on average (EEA 2003). Used wastewater is a major environmental concern and can threaten human and wildlife health. Many tourist facilities are located in isolated areas and are not connected to water treatment networks; the result is large volumes of sewage discharged directly to seas and rivers. In any case, if water is not treated, recycled or disposed of properly, it will cause pollution. In tropical areas, sewage runoff causes serious damage to coral reefs, stimulating algae growth, covering filter-feeding corals and hindering their ability to survive.

can use lessons learned from the tsunami on environmental planning and management. The tsunami represents an historic challenge for the tourism industry: the Indian Ocean will become a testing ground for the industry to prove it can fulfill not only the dreams of tourists, but also invest in the environmental capital of natural resources and provide real benefits for local people (UNEP 2005).

World Stable Lights 1994 - 1995

Source: NOAA National Geophysical Data Center



Tourism is increasing in the coastal Mediterranean region

The Mediterranean is the most visited region in the world, accounting for 32% of international arrivals and 27% of receipts from international tourism. The number of tourists in the Mediterranean countries is expected to increase from 277 million in 1990 (with 132 million to the coastal region) to 637 million in 2025 (with 312 million to the coastal region) (WTO 2001, Plan Bleu 2003). UNEP's Global Environment Outlook report notes that uncontrolled, mass tourism is one of the root causes behind coastal degradation today.

What Can Be Done

Sustainable tourism can become a powerful force to generate employment, combat poverty and simultaneously protect the natural and cultural environment. It clearly has the potential to reconcile economic and environmental concerns and give a practical meaning to the phrase "sustainable development". Well-managed tourism can make positive improvements to biological diversity conservation, especially when local communities are directly involved with operators. If such communities receive income directly from a tourism enterprise, they in turn increase their valuation of the resources around them. This is followed by greater protection and conservation of those resources, once they are recognized as the source of income.

Key players, private and public sectors need to work together to ensure that public policies are supported by voluntary initiatives (and vice versa). Consumers also need to be more aware of the impacts generated by their holidays and their travel choices.

The role of local communities is also crucial. Tourism takes place at the local level, but it also has global (and trans-boundary) impacts. Furthermore, decisions taken at the national level can also influence the sustainability of the destination. A "local Agenda 21" for tourism has been developed in many destinations, and these have proved to be a sound framework for the local community to participate and define their sustainable tourism strategy.

Photo: Andrea DeBono



While it is now generally understood that tourism will remain a successful industry only if it is developed and managed by integrating environmental best practices and tools, there are still far from being widely applied.

At the international level, the UN Commission on Sustainable Development (CSD) and the Convention on Biological Diversity (CBD Guidelines on Biodiversity and Tourism development) have targeted tourism as a priority policy area.

The United Nations Environment Programme has a long-standing experience in promoting sustainable tourism. Through its activities, it aims at influencing decision-makers in the public and private sectors, to integrate environmental principles in the development and management of tourism. In February 2006, UNEP's Governing Council 24 / GMEF will focus on tourism and environment, among other policy issues.

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So far, the terms "ecotourism" and "sustainable tourism" are over-used. There is a need for an organisation to define clear criteria and provide a label for hotels, tours and other tourist infrastructures that are respecting the original concepts. Consumers could then select (e.g. via internet) the places where to spend their vacation.

Sustainable Tourism and Ecotourism

Sustainable tourism's goal is to develop and manage tourism activities and services in a way that conserves the character of the place being visited, benefits local communities, and preserves resources and attractions that make tourism destinations desirable places to visit - and to live. Sustainability for tourism has three interconnected aspects: environmental, socio-cultural, and economic. Sustainable tourism aims at preventing or minimizing ecological, cultural and social impacts. It requires efficient use of natural resources, including biological diversity, fresh water, and energy; prevention of pollution and physical degradation of ecosystems; and maximization of benefits to conservation and local communities.

Ecotourism is a rapidly growing segment of the tourism market, and in regard to its 'relationship' to sustainable tourism, eco-tourism can be considered the part of the larger sector of nature tourism that has more 'advanced' goals in relation to sustainability. The International Ecotourism Society (TIES) defines ecotourism as "responsible travel to natural areas that conserves the environment and sustains the well-being of local people." Ecotourism's goals include active promotion of conservation, and involving local communities in ways that provide them with socio-economic benefits. The basic elements of ecotourism are that it:

- . Is delivered primarily to small groups by small-scale businesses
- . Requires the lowest possible consumption of non-renewable resources
- . Stresses local participation, ownership and business opportunities, particularly for rural people
- . Contributes to conservation of biodiversity
- . Sustains the well-being of local people
- . Includes an interpretation/learning experience
- . Involves responsible action on the part of tourists and the tourism industry



Photo: David Taitn, www.davidtatin.com

Further information from UNEP/DTIE Tourism at www.uneptie.org/pc/tourism/home.htm

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The Tour Operators' Initiative at www.toinitiative.org
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UN Commission on Sustainable Development at www.un.org/esa/sustdev/sdissues/tourism/tourism.htm
UNEP Tourism Programme at www.uneptie.org/pc/tourism/home.htm
World Tourism Organisation facts and figures at www.world-tourism.org/facts/tmt.htm
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