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Tourism and sustainable development**Report of the Secretary-General****Addendum****Tourism and environmental protection*****Contents**

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I. Tourism and environmental protection

1. There is a complex relationship between tourism and the environment. Given its scale and global extent, it is inevitable that tourism has important environmental impacts. These impacts are related to resource consumption and the pollution and waste generated by tourism activities, including impacts from tourism-related transport. At the same time, beaches and mountains, rivers, forests and biological diversity make the environment a basic resource upon which the tourism industry depends to thrive and grow, and threats to the environment threaten the viability of the tourism industry. Nevertheless, in various circumstances, tourism can significantly contribute to environmental protection.

A. Environmental impacts of tourism

2. The main adverse impacts of tourism on the environment are connected to pressure on natural resources, harm to wildlife and habitats (with associated loss of biological diversity), the generation of pollution and wastes, and social and cultural pressures related to the conservation and sustainable use of biological diversity.

Natural resources

3. The main natural resources at threat are freshwater, land and landscape, marine resources, the atmosphere and local resources, as follows:

(a) Freshwater. There is overuse of critical water resources by the tourism industry for hotels, swimming pools and golf courses. This is of particular concern in such regions as the Mediterranean, where water resources are scarce and each tourist consumes more than 200 litres a day;

(b) Land and landscape. Tourism development can lead to sand mining, beach and sand dune erosion, soil erosion and urbanization. Road and airport construction can lead to land degradation, loss of wildlife habitats and deterioration of scenery;

(c) Marine resources. Tourism and recreational activities (scuba diving, snorkelling, sport fishing), can lead to damage to coral reefs and subsequent impacts on coastal protection and fisheries;

(d) Atmosphere. Threats to the atmosphere are related to the high levels of energy use in tourism facilities and for tourism-related transportation;

(e) Local resources. Tourism can create pressure on local resources, such as energy, food, water and other raw materials which may be in short supply.

Wildlife and habitats

4. The main harm to wildlife and habitats occur where tourism activities disrupt biological resources or operate in ecologically fragile areas, as follows:

(a) Biological resources. Tourism can lead to the disruption of wildlife habitats, clearance of vegetation for tourism developments, increased pressure on endangered species due to trade and hunting, increased demand for fuelwood, and forest fires;

(b) Ecologically fragile areas, such as rain forests, wetlands, mangroves, coral reefs and sea grass beds. If nature tourism is not properly planned and managed it can threaten the world's most ecologically fragile areas, including parks and natural world heritage sites.

Pollution and wastes

5. Pollution and wastes generated by the tourism industry can lead to the following forms of contamination:

- (a) Land contamination from solid wastes and litter (a tourist produces an average of about one kilogram of waste a day);
- (b) Freshwater contamination from pollution by sewage;
- (c) Contamination of marine waters and coastal areas from sediment run-off, pollution from land-based hotels and marinas, and waste and litter linked with marine sports and cruises. For example, in 1995, it was estimated that cruise ships in the Caribbean alone produced more than 70,000 tons of waste each year;
- (d) Air contamination from air pollution from tourist transportation at the local level, and at the global level, impacts, especially from carbon dioxide (CO₂) emissions related to energy use in transportation, air-conditioning and heating of tourist facilities, etc.;
- (e) Noise, from ground as well as air transportation.

Box 1

Environmental impacts of tourism in coastal areas and small island developing States

On islands and along coastal areas, the main types of pollution in coastal waters resulting from tourism include sediments, sewage, solid waste, nutrients, synthetic organic chemicals, oil and pathogens. These result in eutrophication and deteriorating water quality, which have adverse effects on coastal ecosystems and the living resources and so impair their value for tourism as well as other uses. This, in particular, is the case of coral reefs, which are at high risk worldwide.

Tourism development can be intensive on coastal fringes, and has caused major damage to coastal ecosystems. For example, three quarters of the sand dunes on the Mediterranean coastline between Spain and Sicily have disappeared, mainly as a result of urbanization linked to tourism development.

Development of new berths for cruise ships can destroy valuable coastal habitats. Their massive anchors and chains have, for instance, gouged large chasms 3 to 9 metres deep in parts of the Caribbean.

Because of island characteristics and limitations of resources, adverse environmental effects from tourism may have more immediate repercussions than elsewhere. This was highlighted at a conference on the theme "Sustainable tourism in small island developing States and other islands" held at Lanzarote, Canary Islands, in 1998.

Box 2**Tourism in mountain regions**

Mountain regions and communities often have fragile environments and socio-economic relations, the latter frequently important factors in environmental management. Problems associated with tourism in mountain regions include sewage pollution of rivers; sedimentation and emissions from construction activities; erosion and landslides linked to trails and skiing/snowmobiling; water extraction from streams to supply resorts; damage to habitats during construction and use; interruption by roads and construction of animal migration between life zones; and litter accumulation on trails.

In North America, awareness is growing within the skiing industry of its effects on mountain environments and of the benefits from applying sound environmental management practices. Environmental management of ski areas on federal government lands in Canada and the United States of America have also helped to set standards.

In many mountain areas, concern has grown about the negative impacts of tourism on the natural environment, village economies and cultural traditions. The Annapurna Conservation Area Project in Nepal has been set up to address such concerns by practising multiple land use methods of resource management, combined with sustainable community development. All activities are carried out with the full participation of local people and communities, making them guardians of their resources, and are designed to ensure that local people benefit from trekking tourism and conservation.

Social and cultural pressures

6. Tourism can create social and cultural pressures related to the conservation and sustainable use of biological diversity. In terms of its social and cultural impacts, tourism can lead to disturbance of the local way of life and to social structures, and can adversely affect traditional practices that contribute to the conservation and sustainable use of biological diversity. It can also impose adverse impacts on livelihoods without sharing the benefits from tourism with those who bear the tourism-related costs in terms of both the human and natural environments. Tourism can introduce resource use conflicts, such as competition between tourism and local populations for the use of limited resources of water, sanitation and energy; there can also be competition with traditional land uses, especially in heavily used areas, such as coastal zones.

B. Environmental threats to tourism

7. The viability of the tourism industry can be threatened by environmental degradation:

(a) Global warming can threaten tourism in coastal areas and small island developing States from rises in sea level. In ski resorts, snow conditions can become less reliable. And there are various other impacts on important resources for recreation and tourism. For example, the recent catastrophes caused by hurricane Mitch in 1998 affect tourism as much

as other sectors of the economy; in 1989, the cost of hurricane Hugo to the tourism industry, in lost revenue alone, was estimated at \$8 billion;

(b) Loss of biological diversity linked to human activities and loss of landscape attractiveness affect a number of tourist destinations. For example, in the Mediterranean over 500 plant species are threatened with extinction, and tourism has decreased in some overbuilt destinations;

(c) Water pollution can cause damage to tourism sites in many regions, as well as contaminating the freshwater supply. Lack of freshwater will increasingly be a constraint for tourism development;

(d) Local air pollution linked to urban congestion can discourage tourists from visiting some destinations.

C. Contribution of tourism to environmental conservation

8. Tourism can significantly contribute to environmental protection, the conservation of biological diversity and the sustainable use of natural resources. At the same time, it can also provide much needed resources and raise awareness of the value of environmental and cultural assets. Particular areas, such as parks, protected areas and cultural and natural sites, are vital assets for the development of tourism, and the tourism industry can contribute to their conservation through financial contributions, provision of environmental infrastructure and improved environmental management. Financial contributions are being made for a limited number of initiatives by the tourism industry, and that trend should be further developed. Tourism also helps to raise awareness of the local population with regard to the financial value of natural and cultural sites, making them proud of this heritage and allies for its conservation. More generally, the involvement of local communities in tourism development and operation appears to be an important condition for the conservation and sustainable use of biological diversity.

9. The possible contribution of tourism to conservation is one of the reasons explaining the current interest given to the development of nature tourism. However, for sustainable tourism, there is a need to better understand not only the benefits but also the costs of tourism. There is also a need to develop both a more systematic analysis of direct and indirect costs and benefits from tourism, and “green” accounting approaches. The current focus on nature tourism should not obscure the major challenge to make mass tourism sustainable.

II. Environmental policy challenges for the tourism industry

10. The tourism industry has developed a number of voluntary initiatives for addressing environmental issues:

(a) Environmental management of tourism facilities, especially hotels, is being widely promoted, and progress is being made, particularly for larger hotels, in waste reduction handling, management and disposal, and energy and water consumption. This has been promoted by the main international industry associations. It has also been promoted by numerous industry associations at the regional and national levels. The United Nations Environment Programme (UNEP) has taken part in these efforts. A few tour operators have also implemented environmental programmes and raised the environmental awareness of their clients;

(b) A number of environmental codes of conduct have also been developed by the tourism sector,¹ as well as action plans (such as the Caribbean Action Plan for Sustainable Tourism);

(c) The tourism industry is also increasingly interested in ecolabels as a means of promoting their facilities and destinations.²

However, efforts to date have been concentrated on measures which result in short-term economic benefits, and there are still many major problems to be solved to put the tourism industry on the path towards sustainability.

Box 3

Examples of user fees to support environmental conservation

The Bonaire Marine Park in the Netherlands Antilles was one of the first protected marine areas in the Caribbean to become entirely self-financing through levying of admission fees on scuba divers. Although the diving industry on Bonaire was initially uneasy about the levy of admission fees, the system has been an unqualified success since it was introduced in January 1992, and divers gave it immediate and wholehearted support. Fees support ongoing active management of the park's coral reef, sea grass and mangrove ecosystems, as well as educational activities and orientation sessions for divers, who are the largest user group in the park. Research has shown that those efforts to educate divers and therefore minimize their impact on the reef have been successful.

Seychelles in the Indian Ocean is introducing a \$90 tax on travellers entering the country. The revenue will be used to preserve the environment and improve tourism facilities. In return, travellers will receive a card giving access to national parks, botanical gardens and national heritage sites on all the islands in Seychelles.

11. The key remaining challenges facing the tourism industry are to:

(a) Promote wider implementation of environmental management, particularly in the many small and medium enterprises that form the backbone of the tourism industry, and spread initiatives to all sectors of the tourism industry;

(b) Use more widely environmentally sound technologies, in particular to reduce emissions of CO₂ and other greenhouse gases and ozone-depleting substances, as set out in international agreements;

(c) Address the key issues of siting and more ecoefficient design of tourism facilities;

(d) Raise the awareness of tourism clients of the environment and social implications of their holidays, and of opportunities for their responsible behaviour;

(e) Develop a better dialogue with the local communities in travel destinations, and promote the involvement of local stakeholders in tourism ventures;

(f) Work with Governments and other stakeholders to improve the overall environmental quality of destinations;

(g) Report publicly on environmental performance.

For the tourism industry to remain credible in its commitment to sustainable development, it needs to address the above issues.

III. Environmental policy challenges for national Governments

12. A number of initiatives have been taken by Governments, in all parts of the world to: (a) develop national strategies or master plans for sustainable development of tourism; (b) develop appropriate regulatory mechanisms and tools, such as environmental assessment and the development of building regulations and environmental standards for tourism; (c) create terrestrial and marine protected areas; and (d) support voluntary initiatives by the tourism industry. However, in many countries the coastline is being overbuilt due to tourism development. Unfortunately, the same errors are being repeated. Too often, action is delayed until loss of revenue and cultural and environmental degradation have occurred. The damage that is done can be irreversible. To achieve sustainable tourism, preventative approaches must be adopted. The evidence demonstrates the need for urgent action to avoid irreversible damage from tourism, particularly in coastal and mountain areas.

13. Governments need to further develop and implement the legislative and policy frameworks for sustainable development. In particular, they need to:

- (a) Ratify, if they have not already done so, and work towards the effective implementation of, international and regional environmental conventions;
- (b) Integrate more fully tourism development into the overall plans for sustainable development and develop participatory approaches;
- (c) Develop more widely land use planning, and protect the coastline through building restrictions (for example, legislation in France, Spain, Denmark and Egypt forbids building within a defined distance from the coast);
- (d) Identify and adopt the most appropriate mix of regulation and economic instruments, and, in many cases develop economic instruments to address environmental issues;
- (e) Work towards the effective enforcement of regulations and standards.

Box 4

Examples of sustainable tourism in the Mediterranean

A group of experts on sustainable tourism, meeting at Antalya, Turkey, from 17 to 19 September 1998, under the framework of the Mediterranean Commission on Sustainable Development, highlighted the means to make sustainable tourism a reality for the region. The meeting considered conventions, framework agreements, procedures and protocols; financial mechanisms, such as taxes on the environment, tourism taxes, requirements to reinvest profits in regions with tourism installations, fines for non-compliance, subsidies for the environmental upgrading of facilities, development of agro-tourism and tourism development in difficult areas; technical assistance and advice; and land use planning and protective laws.

The meeting noted that efforts currently being put into such mechanisms throughout the region do not yet match the needs for widespread effective action, and that better integration of Mediterranean tourism with sustainable development demands major efforts on training, awareness-raising, and exchange of experience and best practice information, as well as organization of the strong participation of the local population. Action is also needed on:

- (a) Financial mechanisms to enable the tourism sector to contribute to the quality of destinations;
- (b) Network of pilot projects and establishment of a "Mediterranean eco-label" for environmental quality of destinations and installations;
- (c) Capacity-building for States, regions and tourist destinations to bring about successful integration of tourism with sustainable development;
- (d) Measures to support tourism in the Mediterranean island regions.

14. Governments need to raise awareness, build capacity and promote effective action for sustainable tourism. This requires that they strive to:

- (a) Improve the understanding of the benefits and burdens of tourism in environmental, social and economic terms, for the areas under their jurisdiction;
- (b) Strengthen capacity for the management and control of tourism in their sphere of responsibility, and establish and maintain procedures for cooperation and coordination with neighbouring authorities, and with relevant State authorities;
- (c) Provide support through pilot projects and capacity development programmes, including capacity development at the local government level;
- (d) Ensure the participation of all stakeholders affected by or involved in tourism and its development, especially indigenous and local communities;
- (e) Ensure that tourism makes a positive contribution to economic development, and that the economic benefits of tourism are equitably shared;

(f) Encourage and catalyse industry initiatives for sustainable tourism across all sectors of tourism, including accommodation, land, air and sea transportation, tour operators, travel agents, attractions sectors etc.;

(g) Promote changes in consumer behaviour in both tourist-originating countries and destinations towards more sustainable forms of tourism.

15. Governments will also need to develop monitoring of progress towards sustainable tourism. It is important to develop activities to monitor, control and mitigate adverse effects that may arise from tourism activities and development.

IV. Environmental policy challenges for non-governmental organizations

16. Many non-governmental organizations have already made significant steps in modifying consumers' preferences and behaviour, making sensitive issues public and highlighting problematic areas, thus influencing decisions. They have also increased environmental awareness and educational levels, with great positive results. One example is the "Blue flag" campaign, conducted by the Foundation for Environmental Education in Europe, which contributed to the improvement in the quality of European beaches and marinas.

17. The key environmental policy challenges that face non-governmental organizations are to:

- (a) More specifically voice their views in tourism policies and strategies;
- (b) Contribute to the development and implementation of environmental standards for tourism;
- (c) Develop or participate in raising awareness and education activities for sensitizing tourists towards improving guest consumption patterns;
- (d) Assist in monitoring tourism activities and development and progress towards more sustainable tourism.

V. Environmental policy challenges for the international community

18. Many international organizations, in line with their mission and field of expertise, have developed programmes and activities to help put tourism on the path towards sustainability.

19. UNEP, through its Industry and Environment Centre, and in cooperation with partners, such as the World Tourism Organization (WTO), the United Nations Educational, Scientific and Cultural Organization (UNESCO) and industry associations, has published technical reports on best practices in the tourism industry and organized conferences and workshops to share experience.³ UNEP has also contributed at the regional level through the regional seas programmes, in particular in the Caribbean and the Mediterranean. The Caribbean Environmental Programme, together with the United States Agency for International Development, have developed the Caribbean Environmental Network to improve environmental practices in the tourism industry in the region through training, pilot studies, etc. The Mediterranean Action Plan has provided information on sustainable tourism, and has set up an expert group on this topic within the framework of the Mediterranean Commission on Sustainable Development.

20. WTO has also been active, focusing in particular on planning at the national and local levels and on indicators for sustainable tourism, and addressing sustainable tourism in a number of regional forums.⁴ A number of other international organizations have developed activities for sustainable tourism; in particular, UNESCO has addressed, *inter alia*, tourism in World Heritage Sites and cultural tourism. The secretariats of the international conventions, in particular the Convention on Biological Diversity, have provided information and catalysed action for sustainable tourism in their areas. In addition, many regional organizations, in particular the regional commissions, have also developed activities to support sustainable tourism in their region.

21. To help catalyse appropriate action, UNEP has recently proposed the “Principles for implementation of sustainable tourism”. The principles are being designed to provide a coherent framework for more specific guidelines to be prepared by the various conventions (such as those on biological diversity and climate change), the regional seas action plans, and other international agreements that have already or will address tourism issues. The principles are also intended to help Governments, intergovernmental, private sector and other organizations to apply the general concept of sustainable tourism in practice.

22. The key remaining challenges facing the international community are to:

- (a) Assist and support Governments in the development of national strategies or master plans for the sustainable development of tourism, and of environmental land use and building regulations and standards for tourism;

- (b) Raise awareness and build capacity of all stakeholders by providing information on best practices for sustainable tourism;

- (c) Encourage the private sector to develop and apply codes and guidelines, and environmental management systems, and promote the development of the use of environmental reporting by companies in the various branches of the tourism sector;

- (d) Assist in assessing the environmental effectiveness of existing voluntary initiatives in the various branches of the tourism sector, and make recommendations accordingly;

- (e) Promote the transfer of environmentally sound technologies (ESTs), practices and management tools adapted for the tourism sector, and disseminate information on ESTs to Governments and the tourism industry;

- (f) Work with other stakeholders to establish and disseminate lessons from best practices projects on sustainable tourism;

- (g) Provide support through provision of information and capacity development programmes, particularly on the costs and benefits of tourism development, the use of economic incentives to promote sustainable tourism, and on destination management;

- (h) Assist in the establishment of monitoring of progress towards sustainable tourism.

23. There are several important emerging issues with regard to tourism and environmental protection. These include:

- (a) Developing partnership. For sustainable tourism, the involvement and commitment of all stakeholders are essential. However, public, private and academic sector partnerships are still underdeveloped and therefore need to be encouraged;

- (b) Involvement of the banking and insurance sectors. Banks and insurance companies could greatly expedite the progress of sustainable tourism by incorporating environmental and social criteria into assessment procedures for loans, investments, and insurance. They could help to finance environmentally sound technologies and provide incentives for

sustainable tourism. This approach has worked well in other contexts. Widespread involvement of the banking and insurance sectors should be sought;

(c) Use of economic instruments. The tourism industry consumes increasingly scarce natural resources. The costing of energy and water in particular could expedite greatly ecoefficiency in the tourism industry and raise revenue for the improved management of those resources. Governments should consider the development and widespread use of economic instruments for sustainable tourism;

(d) Involvement of tourism boards. Often, marketing strategies and messages are not in line with the principles of sustainable tourism. There is a need to better involve tourism boards in sustainable tourism efforts;

(e) Capacity-building of local government. In many countries, local governments have important responsibilities regarding tourism development. Capacity-building programmes should be implemented to help them understand those responsibilities, develop integrated and participatory approaches, and define and implement policies for sustainable tourism;

(f) Greater focus on transport. There is a continued development of long-haul travel. Economic, technological and management approaches should be developed to reduce emissions, waste and pollution resulting from tourism transportation. Changing consumption patterns should also be considered;

(g) Emerging types of tourism. Tourism is rapidly diversifying. Emerging forms of tourism should also develop according to sustainability criteria. Currently, the increase of cruises and the current trend towards mega-ships necessitate that the cruise ship industry develop a socially and environmentally responsible approach;

(h) Improve monitoring. Careful monitoring of impacts and results, as well as the adoption of corrective measures, are conditions for sustainable tourism. Monitoring should thus be developed by all stakeholders at all levels. As previously stated, the private sector should develop monitoring and public reporting of its activities. Local and central governments should develop monitoring tools, such as indicators, and should incorporate the results into their decision-making process. Where appropriate, participatory approaches should be used. Monitoring is currently uncommon and that should be made a priority.

Notes

¹ See UNEP, *Codes of Conduct for Tourism* (Paris, 1995); and UNEP, International Hotel Association (IHA) and International Hotels Environment Initiative, *Environmental Action Pack for Hotels* (Paris, 1995).

² See UNEP, *Ecolabels for the Tourism Industry* (Paris, 1998).

³ See, for instance, UNEP and IHA, *Environmental Good Practice in Hotels: Case Studies* (Paris, 1997).

⁴ See, for example, WTO, *A Practical Guide to the Development and Use of Indicators of Sustainable Tourism* (Madrid, 1995); and WTO, *Sustainable Tourism Development: Guide for Local Planners* (Madrid, 1993).