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## Special Commentary

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# THE ENVIRONMENTAL IMPACT OF TOURISM AND AIR TRANSPORT ON THE SUSTAINABLE DEVELOPMENT OF SMALL ISLAND DEVELOPING STATES

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### ABSTRACT

The United Nations General Assembly recognized that many small island developing countries were confronted with compelling factors such as their smallness in size, susceptibility and vulnerability to natural disasters, remoteness of access and geographical dispersion. All of these factors worked to their detriment. The fragility of their ecosystems and constraints on transportation and communications created almost insurmountable distances between market centers and a highly limited internal market for these developing countries. This paper will discuss these problems and the impact of United Nations initiatives.

### INTRODUCTION

In February 1993, the United Nations General Assembly initiated specific measures in favor of island developing countries by adopting Resolution 47/186 (A/RES/47/186, 25 February 1993). This resolution marked the genesis of official action taken by the international community towards furthering the objectives of the United Nations Conference on Environment and Development (UNCED, Rio de Janeiro, 3-14 June 1992), which addressed, inter alia, the question of small island developing States (SIDS) and their sustainable development.

The General Assembly recognized that, in addition to the general difficulties which developing countries faced, many small island developing countries were also confronted with such compelling factors as their smallness in size, suscepti-

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bility and vulnerability to natural disasters, remoteness of access and geographical dispersion—all of which worked to their detriment. The fragility of their ecosystems and constraints on transport and communications, which created, *inter alia*, almost insurmountable distances between market centers and a highly limited internal market, were further contributions towards the hindrance of development within these countries. It was noted by the Assembly that many of the above factors occurred concurrently in island developing countries, resulting in a negative growth in economic and social development and the necessary corollary of dependence, particularly in geographically dispersed island developing States.

Therefore, the General Assembly, in Resolution 47/186, came to the conclusion that many island developing countries are least developed countries and that the international economic environment that these countries faced in the 1990s would strongly affect their ability towards achieving sustainable development. In this context the Assembly took note of Agenda 21 of UNCED, particularly Chapter 17, Section G which relates to the sustainable development of small island developing States and reaffirmed earlier United Nations' action in resolution 45/202 of 21 December 1990 and other relevant resolutions of the General Assembly and of the United Nations Conference on Trade and Development (UNCTAD), all of which respond to the special needs of island developing States.

Finally, the Resolution appealed to the international community to maintain and, if possible, increase the level of concessional financial and technical assistance provided to island developing countries; to provide support to island developing countries over a mutually agreed and longer time frame to enable them to achieve economic growth and development; and to consider improving trade and/or other existing arrangements for assisting island developing countries in redressing negative effects caused to their export earnings.

The General Assembly also appealed to the international community to ensure that a concerted effort is made to assist island developing countries, at their request, in improving their institutional and administrative capacities and in satisfying their overall needs with regard to the development of their human resources.

In December 1993, the General Assembly adopted Resolution 48/193 (A/RES/47/193, 21 December 1993) on convening a global conference on the sustainable development of Small Island Developing States. This resolution recognized the fact that SIDS were faced with special challenges with regard to implementing sustainable development owing to their limited developmental options and that the assistance of the international community was necessary for these countries to effectively meet such challenges. The Assembly therefore decided to convene the first Global Conference on the Sustainable Development of Small Island Developing States in Barbados in April/May 1994.

The Programme of Action for the Sustainable Development of Small Island Developing States adopted at the Barbados Conference (A/50/422/Add.1 20

September 1995) in its Part VIII — on tourism resources — recommends various studies to examine indicators of sustainability with regard to tourism and suggests the development of proposals for environmental codes of conduct for the tourism sector (which is already being carried out by the Caribbean Tourism Association). The Programme also suggests the desirability of holding workshops on integrated tourism planning in selected regions and supporting tourism planning and management in SIDS.

It is also worthy of note that the Programme, in its Part XII, provides for the implementation of action on developing transport and communications in SIDS. The Programme calls for: continued efforts to strengthen transport services and facilities at both national and local level, with emphasis laid on environmental protection, with a view to introducing safe, energy efficient and low cost transport systems; regional co-operation by such measures as consolidation of national airline services; establishing effective links with regional organizations, particularly in improving provision of financial and technical resources; encouraging and promoting research and development in the field of transportation; and facilitation of tourism related travel formalities, such as quarantine requirements.

This article will examine the various issues involved in the attempts made so far by the international community at achieving sustainable development of small island developing states and assess the role played by tourism and air transport in this regard.

### SUSTAINABLE DEVELOPMENT

Essentially, the term “sustainable development” in the context of environmental protection means “development which the environment can sustain without being polluted.” The term has its genesis in the UNCED Conference which had the following priorities incorporated in its Report, in Agenda 21:

- (a) achieving sustainable growth, as through integrating environment and development in decision-making;
- (b) fostering an equitable world, as by combating poverty and protecting human health;
- (c) making the world habitable by addressing issues of urban water supply, solid waste management, and urban pollution;
- (d) encouraging efficient resource use, a category which includes management of energy resources, care and use of fresh water, forest development, management of fragile eco systems, conservation of biological diversity, and management of land resources;
- (e) protecting global and regional resources, including the atmosphere, oceans and seas, and living marine resources; and
- (f) managing chemicals and hazardous and nuclear wastes.

For the above purposes, member States of the United Nations agreed at the Conference to establish a new Commission for Sustainable Development which was mandated to monitor and review the implementation of Agenda 21. The UNCED initiative re-established the notion that environment is an inextricable and integral part of sustainable development and that environmental issues were not *sui generis* or stand-alone issues but were incontrovertibly linked to their economic, political and social contexts. The general thrust of the UNCED conclusions was that environmental issues were the necessary corollaries to social processes and should be addressed on the basis of equity, care for nature and natural resources and development of society.

Environmental management is therefore the key to effective sustainable development. The flavor of the UNCED process introduced a hitherto unknown element in environmental protection—a diversion from the mere cleaning up or repairing damage to being a sustained social activity which brings to bear the need to force development to keep pace with the environmental equilibrium and stability of the world.

Another integral part of sustainable development is economics. Economics not only plays a key role in societal decision-making, but it also integrates environmental issues with distribution, ownership and control, identifying economic development and social issues as major elements in the management of a society. Another aspect of the role of economics in sustainable development is reflected in the very nature of sustainable development itself, in that it requires a delicate balance between the needs of the present generation and the long-term environmental well being of a society. If, for instance, the alienation of environmental assets which enrich the present generation, but would adversely affect future generations, the management of this dichotomy could be addressed by considering primarily, the economic implications of unsustainable development.

Another factor which influences sustainable development is globalization, which calls for intervention at international level to ensure that development could be sustained environmentally. In this context, in addition to the implementation of international environmental agreements, it becomes necessary to critically analyze the impact of the global economy and the liberalization of trade on environmental issues.

The UNCED process epitomizes the premise that any bifurcation of environment and sustainable development is arbitrary and cosmetic. With this in view, sustainable development is now internationally managed by the primary United Nations regulatory body on the environment—the United Nations Environmental Programme (UNEP)—which addresses the subject of sustainable development in three component elements:

1. environmental assessment: through the evaluation and review, research and monitoring and the exchange of views on the environment;

2. environmental management: through comprehensive planning that takes into account the effects of the acts of humans on the environment; and
3. supporting measures: through education, training and public information and also through financial assistance and organizational arrangements.

The above tools are used by UNEP in carrying out the task assigned to it by Agenda 21 of UNCED, which, in its Chapter 38, paragraph 22 set out the following priority areas on which UNEP should concentrate:

1. Strengthening its catalytic role in stimulating and promoting environmental activities and considerations throughout the United Nations system;
  - a. Promoting international co-operation in the field of environment and recommending, as appropriate, policies to this end;
  - b. Developing and promoting the use of techniques such as natural resource accounting and environmental economics;
  - c. Environmental monitoring and assessment, both through improved participation by the United Nations system agencies in the Earth-watch programme and expanded relations with private scientific and non-governmental research institutes; strengthening and making operational its early-warning function;
  - d. Co-ordination and promotion of relevant scientific research with a view to providing a consolidated basis for decision-making;
  - e. Dissemination of environmental information and data to Governments and to organs, programmes and organizations of the United Nations system;
  - f. Raising general awareness and action in the area of environmental protection through collaboration with the general public, non-governmental entities and intergovernmental institutions;
  - g. Further development of international environmental law, in particular conventions and guidelines, promotion of its implementation, and co-ordinating functions arising from an increasing number of international legal agreements, inter alia, the functioning of the secretariats of the Conventions, taking into account the need for the most efficient use of resources, including possible co-location of secretariats established in the future;
  - h. Further development and promotion of the widest possible use of environmental impact assessments, including activities carried out under the auspices of specialized agencies of the United Nations system, and in connection with every significant economic development project or activity.

- i. Facilitation of information exchange on environmentally sound technologies, including legal aspects, and provision of training;
- j. Promotion of subregional and regional co-operation and support to relevant initiatives and programmes for environmental protection, including playing a major contributing and co-ordinating role in the regional mechanisms in the field of environment identified for the follow-up to the Conference;
- k. Provision of technical, legal and institutional advice to Governments, upon request, in establishing and enhancing their national legal and institutional frameworks, in particular, in co-operation with UNDP capacity-building efforts;
- l. Support to Governments, upon request, and development agencies and organs in the integration of environmental aspects into their developmental policies and programmes, in particular through provision of environmental, technical and policy advice during programme formulation and implementation;
- m. Further developing assessment and assistance in cases of environmental emergencies.

In addition to chapter 38, directives are specifically given to UNEP or to UNEP in collaboration with others, in sixteen chapters of Agenda 21. Agenda 21 was endorsed by United Nations General Assembly resolution 47/19 of 22 December 1992.

The expectations placed upon and the tasks assigned to UNEP by the international community thus confirm UNEP's approach of positioning the environment in the broader context of sustainable development. UNEP's mandate is consistent with the conclusion that the environment cannot be viewed in isolation and needs to be managed within the integrated context of sustainable development. This approach was confirmed by the global community at UNCED.

Mention must be made of the perceived overlap between the UNEP and another United Nations body—the Commission on Sustainable Development (CSD) both of which are involved—within the parameters of Agenda 21 of UNCED—in issues addressing environment and development. The CSD is ineluctably involved in Agenda 21, of which the main thrust is sustainable development. Sustainable development in turn is linked to environmental and developmental issues, which is identified with the scope of work which UNEP is involved in. However, this seemingly obvious duplication is not an absolute one since UNEP's main interest lies in the environment, whereas the CSD focuses primarily on sustainable development. However, the scope and functions of the CSD, as reflected in Agenda 21, although bordering largely on monitoring and review, also involves for the CSD a largely interactive role with organizational and governmental entities which are involved with the implementation of

Agenda 21. This function irrevocably overlaps with that of the UNEP and may therefore be considered by the world at large as a perceived duplication. Another area of potential overlap between the two bodies lies in the existence of the Department for Policy Co-ordination on Sustainable Development (DPCSD) which provides support for the CSD and therefore is involved in the same work as UNEP. The UNEP and CSD dichotomy is also seen in their roles in monitoring progress made by the international Community under international conventions. Be that as it may, both bodies have so far performed their functions without tangible duplication, while contributing to Agenda 21 positively (UNEP/ GC.18/27, 21 March 1995).

The United Nations Inter-Agency Committee on Sustainable Development (IACSD) is yet another body which addresses the subject of sustainable development within the United Nations umbrella. The IACSD was established by the Administrative Committee on Co-ordination (ACC) which was set up under Agenda 21. The ACC, which was charged with ensuring the smooth and effective implementation of Agenda 21, in turn established the IACSD which identifies major policy issues under UNCED and advises the ACC on ways and means of addressing them. In addition, the IACSD identifies overall policy issues for the ACC under its guidance and advises ACC of major lapses and constraints affecting the United Nations system in the UNCED follow up.

### **Small Island Developing States**

The United Nations uses the basic criterion of the size of the economy of a country in defining a developing country. Under this broad heading, various sub criteria are used to define the size of an economy. The three most widely used are population, physical area and size of the economy. However, there is no generally acknowledged measure of “smallness” and the criteria used would entirely depend on the purpose for which such a definition is generally used (UN Doc A/49/424, General Assembly, 49th Session, 22 September 1994).

Since population levels determine many of the basic characteristics of a national economy, it would seem to be the most significant criterion in the consideration of the size of a particular country with its economic development. The size of the economy is considered directly proportionate to population level and per capita income.

In its fifth programming cycle (1992-1996) the United Nations applied priority economic treatment to “least developed countries” on the following methodology of distribution:

Countries with gross national product per capita of \$750 or less, to receive 87 per cent of indicative planning figure resources, keeping the weight coefficients for gross national product per capita and population in the fifth cycle unchanged from those used in the previous cycle (UN Doc A/49/424).

The United Nations governing Council also decided to award seven qualifier points to countries designated as least developed countries among developing

countries and one qualifier point each to land locked developing countries and developing countries which have accorded to independence since 1985 respectively.

Small Island developing States are not always similar, and may exhibit different resource requirements and belong to a diverse group of countries. There are, among SIDS, such high income countries as Aruba, the Bahamas, Bermuda, Cyprus and the United States Virgin Islands. There are also low income and least developed countries such as Cape Verde, the Comoros, Haiti, Kiribati, Maldives, Samoa, Sao Tomé and Príncipe, Solomon Islands, Tuvalu and Vanuatu. The latter category do not have any significant domestic sources of productive income but depend on sources of external income such as royalties from fishing rights, foreign aid and remittances.

Tourism is the most prominent service export specialization of many island developing States, particularly in the Caribbean region. For instance, the 1989 tourism earnings of 28 island States showed incomes exceeding 75 percent of their total export earnings (UN/A/CONF.167/PC/10, 23/3/93) in 5 countries and constituted over 3 percent of total export earnings in 15 countries. However, despite their heterogeneity, SIDS share common features and disadvantages such as having a small area or land; being constrained by the lack of adequate natural resources; having small economies which lack diversification; and being vulnerable to exogenous factors which pose a threat to their sustainable development such as cyclones. These countries also generally have vulnerable and fragile economies which are unable to sustain development due to their incapacity to adapt to changing costs and prices in international markets.

An inherent disadvantage in an undeveloped economy is its inability to afford its country the benefit of studies on the special environmental and developmental characteristics of small islands. They need to plan, prepare and executive medium and long turn plans on sustainable development and promote environmentally sound technology for sustainable development within SIDS. The economies of SIDS also need to be able to sustain the development of inter-island and regional co-operation and information exchange, particularly in areas such as tourism, of which advertising is a compelling promoter.

### **TOURISM AND AIR TRANSPORT IN SIDS**

It is an inevitable fact that tourism is inextricably linked with air transport and the development of one affects the other. Particularly in the instance of SIDS, the development of tourism would be influenced by air transport conducted in their territories and both would, in turn, affect the sustainable development of SIDS since the number of tourists brought by air carriers could affect the tourism industry of these countries and the expansion of the tourism industry would, together with the movement of aircraft, have a significant impact on the development of SIDS.

The most salient fact in the context of air transport and tourism is that air transport has positively contributed to the opening of new tourism markets which are often not accessible either by road or sea. In 1990, air transport contributed US\$700 billion to the world economy and the industry was responsible for employing 21 million people around the world. The symbiosis of aviation and tourism has resulted in the world's largest industry with more than 3.5 trillion U.S. dollars of gross output and an employment rate of more than 130 million people (Sidhu: 23). The interdependence of these two industries and their emergence collectively as the travel and tourism industry is eminently visible in SIDS, where, according to the World Tourism Organization, tourism will not decrease in the 1990s owing to the recession but in fact will increase in the latter half of the decade and intra-regional tourism (such as tourism in Caribbean States by inhabitants of North and South America) will thrive (WTO News: 3).

In the face of this encouraging scenario, it is useful to analyze the effects of air transport on SIDS and tourism. With emergent trends reflecting multilateral liberalization in the air transport industry, it is becoming more market-driven, and therefore it would not be unrealistic to expect that air carriers of the future would operate air services to tourism-based countries on the dictates of unpredictable and rapidly changing market forces rather than on sustained public service considerations. Given the prospect of advancement of tourism in the late 90s, this trend portends for SIDS a situation whereby their governments would have to weigh the desirability of allowing unlimited access by foreign carriers against the need to protect their own national carriers. Inextricably linked to this consideration would be the need for SIDS to determine the economic benefits that they would derive by opening their airports to a liberalized air transport policy.

In any event, the promotion of tourism to SIDS through the enhancement of air transport would involve some investment, particularly in the introduction of new technological products such as ICAO satellite-based Communications, Navigation, Surveillance/Air Transport Management (CNS/ATM) systems and of new developments in aeronautical meteorology, including the World Area Forecast System (WAFS) satellite broadcasts.

One of the most compelling needs of Caribbean SIDS in order to develop their tourism through air transport is the need to streamline air services to the main tourist generating markets in North America. This could be done by enhancing non-stop air services between the two which should be necessarily supplemented by "island-hops" by commuter aircraft. Although several Caribbean SIDS have their own airlines (including Aruba, the Bahamas, Cuba, Dominican Republic, Haiti, Jamaica, Netherlands Antilles and Trinidad and Tobago) those who do not have their own carriers have not shown sufficient enthusiasm in attracting tourist traffic to their countries aggressively, through air transport agreements with other countries.

One of the most signal events in the Caribbean SIDS since the Barbados Conference was the Summit of Heads of States of the Association of Caribbean

States (ACS) of August 1995, where the delegates adopted a Declaration of Principles and Plan of Action on Tourism, Trade and Transportation. The thrust of the Declaration in the context of transportation lay in the principle that sustainable, efficient, profitable, readily differentiated and significantly higher quality service at reasonable rates was the goal in air and maritime transportation. Another milestone in the expected air transport regulatory policy frameworks of the Caribbean Community (CARICOM) which is calculated to provide for a more liberal and transparent exchange of commercial air traffic rights.

Insofar as the Pacific SIDS are concerned, many have their own airlines and operate air services to neighboring island countries, many of which are also SIDS. Many SIDS in the region have strategically linked their services to tourist destinations such as Australia, New Zealand, Hawaii, points in Asia and the West Coast of the United States. The incidence of domestic air services in the Pacific SIDS is at a reasonable level although it could be developed further, particularly if the upward trend in tourism which is reflected in the late 1990s towards the 21st century is to be fully benefitted from.

African SIDS, unlike their counterparts in the Caribbean and the Pacific, are geographically dispersed, and, as a consequence share little in common with each other. While all African SIDS' airlines operate air services to some of their neighboring countries, there is no cohesive inter-connection between the African SIDS such as in other regional SIDS.

There are, of course, more affluent SIDS such as Singapore—which has one of the busiest airports in the world and an airline which ordered aircraft worth billions of dollars in 1994 and 1995—and Bahrain, which has a shared national carrier—Gulf Air—which has an extensive international route network. Cyprus and Malta have airlines which operate air services to many Mediterranean countries frequently and to prolific tourist markets in Northern Europe.

### **CONCLUSIONS AND RECOMMENDATIONS**

The colorful mosaic of SIDS (except in such instances as Singapore and Bahrain) are unlikely to be affected overtly by principal environmental problems affecting the world today, such as aircraft noise and the impact of aircraft engine emissions. The comparatively small traffic flow at their airports would not give rise to noise or engine emission levels of concern. However, SIDS have to contend with environmental problems that may be linked to the construction and expansion of airports and hotels, such as soil erosion and loss of land and the impact of such developments on fauna and flora and the biodiversity of the ecosystem. Water pollution and spoilage of drainage are also two significant areas which have to be well planned in such development schemes.

The pivotal consideration in sustainable development is that it has economic, social and environmental dimensions. Therefore, in considering the extent of control that needs to be exercised by SIDS in the areas of tourism and air trans-

port development in order that a balance be maintained between progress and sustainable development, all three factors have to be carefully addressed.

Tourism has been a major contributory factor in the development of SIDS and will continue to be important, particularly in stimulating growth in other areas of the economy. However, if tourism is not managed properly it could result in seriously degrading the environment on which it is dependent. The development of tourism in SIDS should therefore be cautiously planned, particularly in the area of land use and water management.

The first step towards sustainable development of tourism is to ensure that the development of tourism and environmental management are symbiotic and mutually supportive. SIDS should integrate their planning and policies with carefully thought out environmental impact statements and consistent monitoring of the environmental impact on tourism activities. Guidelines should be established on standards for design and construction of airports and hotels which focus on energy consumption, the disposal of wastes and the degradation of land. The involvement of the national population in the protection and management of national attractions such as parks and gardens would also be a critical factor in the management of tourism.

From a regional standpoint, SIDS should assess the possibilities of developing co-operation at regional level in integrating tourism and the environment as being mutually supportive. They should also establish regional mechanisms which could sustain a safe tourism sector with a sustainable distribution of the infrastructure.

Internationally, SIDS would be well advised to seek support in supplementing the already fragile resources on which tourism in SIDS is dependent, while promoting efforts at national and regional levels to assess the total impact of the social, economic and ecological facets of tourism.

The above measures should be blended harmoniously with the fundamental principle that air transport and communications which are facilitated by air transport are crucial to the linking of SIDS with the outside world and with each other. The environmental uses such as the enforcement of quarantine measures which are associated with air transport have to be addressed, while at the same time strengthening air transport services and facilities with particular attention to environmental protection and safety. The cost implication of such measures have to be carefully monitored so that the advantage of expedient carriage of tourists in SIDS would not be lost in a cost-inefficient air transport system.

SIDS should also foster co-operation, to the maximum extent possible, in civil aviation including possibilities for consolidation of national and regional airline services. Essential to this exercise would be the development both at national and regional level of effective quarantine services and sophisticated communication technologies which would link main cities with rural areas.

Since air transport and tourism have international connotations as well, SIDS should develop appropriate cost effective and energy efficient air transport solutions to more people and cargo to and from island ports without the need to

depend on a high cost infrastructure. They should also gain access to financial and technical resources which exist in international and regional organizations and promote research and development in air transport and telecommunication in order to lower the costs involved in these two areas.

Finally, SIDS should integrate the above measures with a conscious attempt at ensuring compliance with the international standards and recommended practices (SARPS) and other measures on flight safety and facilitation suggested by the International Civil Aviation Organization. They should also be aware of the impact of changes taking place in the economic regulation of air transport and explore the scope for more regional co-operation with regard to regulatory aspects of air transport such as entering into code sharing and pool agreements. As far as possible, there should be no conflicts within and between SIDS on air transport and tourism policies. Of course, the benefits of these measures would be rendered nugatory if SIDS do not address technological changes taking place in aviation, such as satellite communications systems based on the CNS/ATM concept.

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