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## REPORT OF THE STAP BRAINSTORMING ON SMALL ISLANDS DEVELOPING STATES – THE SUSTAINABLE DEVELOPMENT OF SIDS: OPPORTUNITIES FOR GEF INTERVENTION

BRIDGETOWN, BARBADOS  
FEBRUARY 21-22, 2000

(Prepared by the Scientific and Technical Advisory Panel)

**Report of the STAP Brainstorming on Small Islands Developing States – The Sustainable Development of SIDS: Opportunities for GEF Intervention**

**February 21-22, 2000  
Bridgetown, Barbados**

*Prepared by  
The Scientific and Technical Advisory Panel (STAP)  
of the Global Environment Facility (GEF)*

**STAP Secretariat  
United Nations Environment Programme**

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## **Preface**

It is a pleasure to present the final report of the STAP Brainstorming on Small Islands Developing States – The Sustainable Development of SIDS: Opportunities for GEF Intervention convened in Bridgetown, Barbados, 21-22 February, 2000. The meeting was convened by the Scientific and Technical Advisory Panel (STAP) of the Global Environment Facility (GEF) to assist the GEF in programming more effectively for SIDS.

The report was prepared by Prof. Shuzo Nishioka with inputs from the STAP Secretariat.

Dr. Madhav Gadgil  
STAP Chairman

## **Executive Summary**

This report is the result of the STAP Brainstorming on Small Islands Developing States: The Sustainable Development of SIDS: Opportunities for GEF Intervention convened in Bridgetown, Barbados from 21-22 February, 2000. The goals of the session were:

- (i) To review and critically evaluate a select cluster of priority areas of relevance to SIDS the elements underpinning those issues
- (ii) Exploration by which the issues identified in (i) may be addressed and
- (iii) The identification of specific opportunities for consideration by the GEF

The issues addressed in the brainstorming session were selected carefully so as to avoid duplication with those identified by the Special Session of the UN General Assembly for the review and appraisal of the implementation of the programme of Action for the Sustainable Development of SIDS. The cluster selected identified by the Special Session as priority were selected for analysis namely; Adaptation and Vulnerability, Coastal and Ocean Management, Energy and Natural and Environmental disasters.

The general conclusion was that there are numerous opportunities for the GEF in SIDS. However, these opportunities have not to date been fully exploited. In addition, a number of critical issues were identified as immediate priorities which present opportunities for GEF financing. These areas include adaptation and vulnerability with emphasis on the implementation of demonstration projects, in-country studies as well as the scientific and technical dimensions of adaptation; a new energy agenda for SIDS, are based on energy efficiency and the use and promotion of renewables; comprehensive disaster management strategy and mechanisms aimed at facilitating inter- and intra-regional collaboration between SIDS from various regions.

## **SECTION 1: INTRODUCTION AND BACKGROUND**

### **1.1 Background**

Recognizing the importance the Global Environment Facility (GEF) places on SIDS in its operations, the Scientific and Technical Advisory Panel (STAP) of the GEF in its submission<sup>1</sup> to GEF Council at its meeting of October 14-16, 1998 identified "*Emerging issues on Small Island Developing States (SIDS)*" as a priority area for consideration by STAP during GEF II. GEF interest in SIDS is reiterated in the GEF Corporate Business Plan for FY 2001-03<sup>2</sup> which states that, "*the GEF is closely following the progress in the implementation of the Barbados Programme of Action of SIDS, and strengthening this process through several initiatives and projects in the Southern Pacific, Caribbean and Indian Ocean...*"

Small Island Developing States (SIDS) are recognized as a special case for both environment and development because they are ecologically fragile and vulnerable and they face particular constraints in their efforts to achieve sustainable development. For example, SIDS are among those countries most at risk from the adverse effects of climate change; they are prone to extremely damaging natural disasters; and the health protection and preservation of their ocean, coastal and marine resources are fundamental to their livelihood and sustainable development.

Since the adoption of Agenda 21 by the United General Assembly in 1992, which recognized SIDS as a special case for environment and development, the international community has focused increasing attention on SIDS. The Programme of Action (POA) for the Sustainable Development of SIDS<sup>3</sup> adopted by the United Nations General Assembly in 1994, contains an integrated and comprehensive basis for the sustainable development of SIDS. In September, 1999, the 22<sup>nd</sup> Special Session of the General Assembly, reviewed and appraised the implementation of the Programme of Action.

In an effort to focus on opportunities for GEF interventions in Small Island Developing States (SIDS), STAP convened a Brainstorming session on the theme "The Sustainable Development of SIDS: Opportunities for GEF Interventions" on February 17-18, 2000 in Bridgetown Barbados. The agenda of the meeting is contained in Annex 1.

### **1.2 Official Opening**

The meeting was officially opened at 9.00 am, on February 17, at Barbados Beach Hotel by Prof. Madhav Gadgil, Chairman of STAP who welcomed the participants to Barbados. Dr. Walter Lusigi of GEF Secretariat and Mr. Espen Ronneberg of Inter-Regional Advisor for SIDS, Division for Sustainable Development, Department of Economic and Social Affairs (DESA) -DSD, the focal point in the United Nations System for the implementation of the Programme of Action (POA) also addressed the meeting. Both

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<sup>1</sup> UNEP. Priority Issues which STAP should Address in GEF II, 1998.

<sup>2</sup> The "Corporate Business Plan: FY01-FY03" GEF/C.14/9 was considered by the GEF Council at its meeting of December 8-10, 1999.

<sup>3</sup> The Programme of Action was one of the major outputs of the Global Conference for the Sustainable Development of SIDS convened in Barbados, in 1994.

speakers reiterated the importance of the STAP initiative in heightening awareness of the special circumstances of SIDS within the context of the GEF.

Mr. Ronneberg in his address highlighted a number of areas in which DESA will be exploring to expand co-operation on SIDS related issues. These included, but are not limited to, capacity building; enhancement and strengthening of inter-linkages and collaboration between SIDS using SIDSNET as the main vehicle; public education and awareness aimed at further promoting the implementation of the BPOA; adaptation and vulnerability and to work more closely with SIDS in the development and implementation of GEF funded projects.

The meeting was officially opened by Hon. L. Barker, Junior Minister for Environment, Energy and Natural Resources, Government of Barbados. He welcomed the participants to Barbados and reiterated the appreciation of the Government of Barbados for choosing Barbados for the convening. The Minister highlighted the concern which has been raised by many SIDS concerning the slow pace at which the Programme of Action (POA) for the Sustainable Development of SIDS adopted by the UN General Assembly in 1994 and expressed the expectation of the Government of Barbados that the STAP Brainstorming would highlight awareness, particularly the GEF, of the need for more concerted action in the implementation of the POA. Specific reference was made to a number of efforts undertaken by Barbados in the area of renewable energy technology. In this context, the Minister informed the meeting of the Government of Barbados's commitment to the establishment of a Centre for Renewable Technology.

### **1.3 Aims and Objectives**

The aims and the objectives of the Brainstorming Session were:

- (i) To review and critically evaluate a select cluster of priority areas of relevance to SIDS and the elements underpinning those issues.
- (ii) Explore the means by which the issues identified in (i) may be addressed.
- (iii) Identification of specific opportunities for consideration by the GEF

### **1.4 Participation**

The meeting was attended by SIDS experts from the Caribbean, Pacific, Africa and the Indian Ocean; four members of STAP, representatives from the GEF Secretariat, the Implementing Agencies and United Nations organizations (see Annex II for the list of participants).

### **1.5 Structure of the Meeting**

In order to focus the discussion, recognizing, of course, that the Brainstorming Session could not possibly address all the issues of relevance to SIDS, and to avoid duplication of the priority issues heightened by the Special Session of General Assembly for the review and appraisal of the implementation of the Programme of Action for the Sustainable Development of SIDS; the meeting built upon the conclusions resulting from the Special Session of the General Assembly.

A cluster of issues identified by the Special Session as priority areas were selected for analysis. These included (a) Implications of Climate Change (Adaptation and Vulnerability) (b) Energy: Strategies for SIDS (c) Investing in the Environment to Minimize Degradation (Coastal and Ocean Management and its implications for sustainable resource use) (d) Natural and Environmental Disaster. In addition, focus was also placed on means of implementation, namely capacity building including, institutional considerations and transfer of environmentally-sound technologies.

The consideration of the various clusters of issues were dealt with through panel discussions, scientific presentations and group discussions.



## SECTION 2: OVERVIEW OF PRIORITY ISSUES

### 2.1 Introduction

The consideration of issues relevant to SIDS took place within the conceptual framework established by the international community that recognized these countries as a special case for environment and development. To fully appreciate the magnitude of the range of issues confronting SIDS and the constraints to their sustainable development, an overview of the characteristics of SIDS which have implication for their development were considered. These are summarized in Table 2.1.

<p>Ecological/environmental characteristics</p> <ul style="list-style-type: none"><li>• Small size;</li><li>• Narrow range of natural resources;</li><li>• Limited and fragile resource base that allows less room for error in its utilization and management;</li><li>• Susceptibility to natural environmental events (hurricanes, cyclones, typhoons, etc.);</li><li>• Little natural organic biological diversity;</li><li>• Distance from continents and external competition fosters species endemism;</li><li>• Generally little overall climate variability, but potential for climate upsets;</li><li>• Tendency towards ecological instability when isolation is breached;</li><li>• Abundance of marine biodiversity and similarly high rates and number of species due to environmental change.</li></ul> <p>Geographic Characteristics</p> <ul style="list-style-type: none"><li>• Relative isolation;</li><li>• A completely circumferential sea frontier and EEZ, giving a high ratio of ocean space to land;</li><li>• Extensive land-sea interface which increases the fragility of coastal ecosystem and the demand for coastal zone management;</li><li>• No interior hinterland or central terrestrial core area that is essentially distant from the sea such that coastal resource planning and management are essentially synonymous with national resource planning and management;</li><li>• Dominance of the sea and its use for shipping makes these countries particularly vulnerable to hazards associated with international shipping and waste disposal;</li><li>• Small landmass to ocean space makes island especially vulnerable to global environmental phenomena such as sea level rise.</li></ul> <p>Socio-economic characteristics</p> <ul style="list-style-type: none"><li>• Extreme openness of their economies (external relations of trade, aid technology flows and investment);</li><li>• More dependent on foreign trade than larger countries and having less influence on the terms in which that trade is carried on;</li><li>• Extreme dependence on the external sector (other states, and agencies and large transnational corporations);</li><li>• Low economic resilience in recovering from shocks;</li><li>• Intimate association/relation between economic development and environmental assets;</li><li>• A narrow range of skills and specific difficulty in matching local skills with jobs.</li></ul>
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**Table 2.1<sup>4</sup>: Island Characteristics and their Constraints on Sustainable Development**

### 2.2 Defining the Scope of the Issues

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<sup>4</sup> After Griffith, M.D. and J. Ashe: Sustainable Development of Coastal and Marine Areas in Small Island States: A Basis for Integrated Coastal Management: Ocean and Coastal Management, No. 21, 1999, pp269-284

Recognizing the range of issues of relevance to the sustainable development of SIDS, and inherent limitation of a brainstorming session to discuss them all, focus was placed on the cluster of issues identified by the UN Special Session as requiring urgent action; namely,

- (a) Implications of Climate Change with a focus on adaptation and vulnerability;
- (b) Energy: Strategies for SIDS;
- (c) Investing in the Environment to minimize degradation (Ocean, Coastal and Land management and implications for Sustainable resource use), and
- (d) Natural and Environmental Disasters.

In addition, consideration was given to the means of implementing, with particular reference to capacity building, including institutional issues and the transfer and use of environmentally sound technology.

Following is a brief summary of the key issues highlighted in discussions.

## **2.3 Priority Issues Requiring Urgent Action**

### **2.3.1 *Implications of Climate Change***

Agriculture (including fisheries) and tourism are the principle sources of employment and foreign exchange earnings in most SIDS. Much of these countries' populations and economic infrastructure are located in the coastal areas. In addition, the coastal areas are usually the most biologically, productive areas, supporting coastal and marine habitats and living marine resources which are characterized by high biological diversity. In addition to the increasing stresses (e.g. concentration of tourism-related infrastructure; inadequate disposal of liquid and solid waste etc.), that these resources are increasingly being subjected to; anticipated global warming and consequent sea level, sea surface temperature, and wind and ocean currents could further exacerbate these problems. Sea level rise, in particular, would likely have adverse impacts on marine and coastal habitats; freshwater resources and coastal infrastructure. This in turn would impact negatively on the economies of these countries, particularly the tourism industry. According to the IPCC small island nations and other countries will confront greater vulnerability because their coastal defense systems are well established.<sup>5</sup>

In light of adverse impacts likely to result from potential sea level rise on SIDS, and based upon the experiences of the GEF funded projects<sup>6</sup> in the Caribbean and Pacific regions, much of the discussion focused on adaptation to climate change. In this regard, it was recognised that additional work focusing on the scientific and technical dimensions of adaptation, in the context of SIDS is necessary, particularly with the view of defining specific activities for stages II and III<sup>7</sup> of adaptation activities which can be addressed by the GEF. The need for the implementation

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<sup>5</sup> IPCC, Impacts, Adaptations and Mitigation of Climate Change: Scientific and Technical Analysis: Contribution of Working Group II to the Second Assessment Report of the Intergovernmental Panel on Climate Change, Cambridge University Press, 1995.

<sup>6</sup> Two GEF regional projects were identified as particularly relevant to the consideration of Adaptation to Climate Change, namely: Caribbean: Planning for Adaptation to Climate Change Project and Pacific Islands Climate Change Assistance Project (PICCAP).

<sup>7</sup> The Intergovernmental Negotiating Committee (INC/FCCC) agreed at its Tenth Session that adaptation to these adverse effects would require short, medium, and long-term strategies which should be cost effective, should take into account important socio-economic implications, and should be implemented on a state-by-stage basis in developing countries that are Parties to the Convention. In the short-term, the following sequence of activities was envisaged:

of stage II adaptation activities was also emphasized. In so doing, the implementation of demonstration projects (learning-by-doing) as well as in-depth countries studies were highlighted as possible approaches which could eventually lead to the identification of viable and cost effective options for stage II adaptation activities. In addition, a regional approach for the implementation of stage II adaptation activities, which builds upon strong national inputs, is a desirable approach which could be adopted by SIDS from the various regions. This, it was emphasized, should be seen in the context of the positive experiences of the GEF funded regional projects in both the Caribbean and Pacific regions.

### 2.3.2 *Energy Strategies for SIDS*

Most SIDS depend on imported petroleum for more than ninety percent of commercial energy. This high level of dependence coupled with volatile commodity prices and fluctuation in the earnings from the tourism sector has in the past thwarted SIDS plans for economic growth. Recognizing the importance energy plays in the development of SIDS, emphasis was placed in the discussion on the vulnerability energy resources poses to SIDS, both from an ecological and economic standpoint and strategic directions for the future.

Energy is a key determinant for quality of life in SIDS; since it serves as a major input to manufacturing, industry, domestic uses and transportation. Notwithstanding, its importance, energy continues to be managed in most SIDS as a sector *per se*, and not in the overall context of sustainable development.

The vulnerability of SIDS to energy sources was highlighted as a critical issue which deserves more attention. In this regard, two main elements of vulnerability were highlighted, namely:

- ecological vulnerability in terms of the threats posed by oil spills; disposal and contamination. In this regard, particular reference was made to oil spills on the oceans and the implications for marine and coastal habitats as well as the economies of those countries which are heavily dependent on tourism as a major source of foreign exchange; and
- economic vulnerability from the perspective of the foreign exchange required to purchase hydrocarbons. Since most SIDS are dependent on commodities and/or services (i.e. tourism) whose prices are set external to their economies, a marginal increase in oil prices could have a devastating impact as more foreign exchange will be required to purchase the same amount of oil. This in turn, could have serious social implications which could further contribute to the unsustainable utilization of natural resources (i.e. over exploitation of marine resources etc)

It is against this background that a call was made for "**A New Energy Agenda for SIDS**"; one which is based on energy efficiency and the use and promotion of renewable energy sources. It was however recognised, that additional work will be needed to clearly define the essential requirements necessary to establish this New Energy Agenda for SIDS. Notwithstanding this, a

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Stage I: Planning, including studies of possible impacts of climate change to identify particularly vulnerable countries or regions and policy options for adaptation and appropriate capacity building. In the medium and long-term, two additional stages were envisaged for countries or regions identified in Stage I as being particularly vulnerable.

Stage II: Measures, including further capacity building, which may be taken to prepare for adaptation.

Stage III: Measures to facilitate adaptation (e.g., insurance)

number of key areas were highlighted which could form the basis of this New Energy Agenda; namely geothermal; energy from waste; demand side management (energy efficiency); sugarcane biomass, solar and Ocean Thermal Energy Conversion Technology (OTEC). With respect to the latter, recent analysis have indicated that the potential markets where OTEC plants may be competitive in the next 5 to 10 years; the first market is the small island nations of the Caribbean and South Pacific and the Island of Molokai in Hawaii.<sup>8,9</sup> On these island the relatively high-cost of diesel-generated electricity and desalinated water production system cost effective.

The advances made by some SIDS in the area of renewable energy technologies were also highlighted to demonstrate their potential. In this regard, specific reference was made to Barbados, a country with experience in renewable energy technologies spanning some thirty years, and having experimented with solar thermal, wind, photovoltaic and wave energy. The most successful application of renewable energy technology in Barbados in recent times, was identified as the solar water heaters. To date, over 31,000 solar water heaters have been installed on homes, businesses and hotel in Barbados. Reference was also made to the proposal of the Government of Barbados to establish a Centre for Renewable Energy Technology.

### ***2.3.3 Investing in the Environment to Minimize Degradation***

Issues related to freshwater resources, ocean, coastal and marine management and the impact resulting from human activities, particularly the tourism sector were addressed under this theme. Emphasis focused on the investment both, human and financial required to stem destruction and overutilization and/or exploitation of these resources.

In the case of freshwater resources, its availability; the vulnerability of SIDS to extreme climatological (i.e. drought, low recharge) and the need for greater attention to be paid to watershed management, land and water-use planning were highlighted as crucial for SIDS. In the area of coastal and marine resources, the health, protection and preservation of coastal and marine resources; the need for improved coastal and ocean management and the sustainable utilization of those resources were as highlighted to priority issues. The fact that SIDS are the custodians of a significant portion of the world's oceans and seas and their resources was also recognised as well as both the opportunities this present and the constraints faced by SIDS in sustainably managing their ocean resources.

In this context, specific reference was made to the United Nations Resolution which calls for the integrated management of the Caribbean Sea.

A number of modalities were highlighted which could be used by SIDS in addressing these issues. These included greater use of environmental indicators to help determine priority setting; policy development including the use of economic instruments and environmental law and integration; namely, the use of regional approaches. The need for investing in the various stakeholder which impact on these resources and the utilization of traditional knowledge and its integration with modern science and technology were identified as critical elements in any strategy to sustainably utilized natural resources by SIDS.

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<sup>8</sup> Based on economic analysis the market potential for OTEC plants have been identified. For a more detailed analysis see Stone & Webster and Kvaerner, Technical Assessment for IOMW Land Based OTEC Plants prepared for Sea Solar Power, Inc. November, 1998.

<sup>9</sup> The meeting also recognised the "STAP Review Session of the Ocean Thermal Energy Project" (OTEC) which took place after the SIDS Brainstorming Session on February 21, 2000. The report on OTEC was submitted to the GEF Council for its consideration in May 2000.

### **2.3.4 Natural and Environmental Disasters**

Small Islands Developing States are prone to natural disasters, primarily in the term of cyclones and hurricanes, storms, droughts, volcanic eruptions and earthquakes. Of the 25 most disaster prone countries during the 1970s and 1980s, 13 were small island developing states.<sup>10</sup> Many SIDS are in typhoon or hurricane regions and it is not uncommon for the impact of these systems on the economics of SIDS to be pervasive. For example, St. Lucia lost 60 per cent of its coconut and 75 percent of its banana output from a hurricane in 1980; and Mauritius lost one-third of its sugar output in 1974 and 1975 and again in 1979 and 1980 from natural calamities.<sup>11</sup> In 1979, 73 percent of the population of Dominica was rendered homeless by a hurricane, banana exports fell by 80 percent in 1980 from the 1978 level after two major hurricanes in 1979 and 1980.<sup>12</sup> In 1989 a series of cyclones in Vanuatu resulted in damage and economic losses amounting to twice the country's national income.<sup>13</sup>

The four regions where SIDS are concentrated differ in their risk profiles to natural disasters; the Caribbean Region is most frequently exposed to risk from hurricanes, floods and storms, the Pacific Region to earthquakes and cyclones; West African Islands to drought hurricanes and storms; and the Indian Ocean Region to cyclones and droughts.<sup>14</sup>

Given the range of hazards faced by SIDS and the interlinkages between the various sectors of the economy and the overall vulnerability of the regions where SIDS are concentrated, the need for a Comprehensive Disaster Management Strategy (CDMS) for SIDS was advocated. Such a strategy should involve all actions required to ensure that country or jurisdiction has the capacity to deal with all types of hazards at all phases of disaster management continuum from prevention and mitigation to response and recovery. A regional approach, building upon national strategies, was considered as an appropriate response in some of the regions where SIDS are concentrated.

### **2.3.5 Means of Implementation: Capacity Building Needs**

Capacity building was highlighted as critical to the long-term sustainable development of SIDS. The small size of many SIDS along with the limited human resource base makes it imperative to pool resources through regional co-operation to address many of the environmental/development issues mentioned before. As a consequence, much of the discussion focused on mechanisms aimed, not only at fostering regional and sub-regional co-operation but also intra-regional co-operation and collaboration between SIDS from different regions.

In this regard, a number of specific areas were highlighted, namely:

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<sup>10</sup> United Nations Conference on Trade and Development (UNCTAD) 1997. The Vulnerability of Small Islands Developing States in the context of Globalization: Common Issues and Remedies. Background Paper prepared for the Expert Group Meeting on Vulnerability Indices for SIDS, New York, 15-16 December, 1997.

<sup>11</sup> Commonwealth Secretariat. Vulnerability: Small States in the Global Society. Report of a Commonwealth Consultative Group.

<sup>12</sup> Op cit

<sup>13</sup> Commonwealth Secretariat and World Bank. Small States: Meeting Challenges in the Global Economy; Commonwealth Ministerial Group on Small States: Interim Report of the Commonwealth Secretariat/World Bank Joint Task Force on Small States, October, 1999.

<sup>14</sup> Uitto, J and M. Pelling (1999) Disaster Vulnerability and Small Island Developing States. Presented at the 1999 Annual Meeting of the Mid-Atlantic Division of the Association of American Geographers, Reston, VA, October 15, 1999.

- **Appropriate Regional Co-ordinating Mechanism:** Based upon the Pacific SIDS experience, namely; the functioning of the South Pacific Environment Programme (SPREP), it is suggested that consideration should be given by the SIDS from other regions to the identification and/or establishment of a regional mechanism. Such an institutional mechanism, if successfully established in the other regions where SIDS are located, would only contribute to more effective co-operation and collaboration at the regional and sub-regional levels, but also intra-regionally between SIDS from various regions.

In the context, specific reference was made to the proposed Climate Change Centre for the Caribbean as an integral part of any follow-up to the GEF funded project; Caribbean Planning for Adaptation to Climate Change.

- **Enhancement and/or establishment of regional centres for vulnerability and assessment studies and other disciplines that are required to address emerging environmental issues.**
- **Further strengthening of the Small Island States Information Network (SIDSNET).** This mechanism approved in the Barbados Programme of Action was identified as a key mechanism to facilitate further inter and intra-regional collaboration and co-operation between the SIDS of the various regions.
- **Experience sharing and transfer of technology.** To facilitate this process, it was suggested that projects developed for SIDS in a particular region should have a component aim at the sharing of experience resulting therefrom with SIDS from other regions.

## **SECTION 3: OPPORTUNITIES FOR THE GEF**

### **3.1 Introduction**

Generally, it was accepted that there are numerous opportunities for the GEF in SIDS. In this regard, specific reference was made to OP#12 Integrated Ecosystem Management and the potential it has for using SIDS as laboratories for integrated resource management. The meeting however, recognized that despite the potential opportunities for GEF activities, over and above enabling activities in SIDS, these opportunities have not been fully exploited. This observation has been substantiated by the Programme Status Review in Land and Water Resources<sup>15</sup>.

Following is a summary of a number of priority areas identified by the meeting as being important to SIDS for GEF consideration. It should be noted that this list is not exhaustive but only indicative of the range of issues to be addressed in these countries.

### **3.2 Adaptation and Vulnerability**

A number of areas were identified where the GEF could assist SIDS in addressing this issue. These included, but not limited to greater understanding of the scientific and technical dimensions of adaptation with the view of identifying specific activities which could be financed by the financial mechanism under Stage II and III adaptation activities; the implementation of demonstration project and in-depth country studies. Underlying the discussion was the need in SIDS to establish and/or strengthen regional and/or subregional Climate Change "centres of excellence". In this regard, specific reference was made to the need for a GEF follow-up to the GEF funded projects "Caribbean: Planning for Adaptation to Climate Change" and Pacific Islands Climate Change Assistance Project (PICCAP). It was also suggested that similar projects should be formulated for SIDS in other regions notably SIDS in the Indian Ocean.

Attention was also directed to the type of programmatic framework which could be put in place by the financial mechanism to address issues related to adaptation and vulnerability. In this regard, the possibility of the development of Operational Programme to address adaptation and vulnerability was raised<sup>16</sup>.

### **3.3 Energy Agenda for SIDS**

A new energy agenda for SIDS based on energy efficiency and the use and promotion of renewable sources of energy was highlighted as a priority area requiring urgent attention by the GEF.

Specific elements of the new energy agenda for SIDS that were specifically mentioned included (a) demand side energy efficiency through the promotion and support for commercial and residential efficiency and lighting; energy efficient appliances and industrial processes and power generation transmission and distribution (b) supply side energy generation including waste conversion, through anaerobic fermentation and gasification and plant oil energy technologies for household applications and (c) Ocean Thermal Energy Conversion (OTEC) technology as an

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<sup>15</sup> See Status report on the GEF Land and Water Resources Portfolio, September, 2000

<sup>16</sup> It should be noted that Adaptation and Vulnerability has been identified as a priority area by the GEF Climate Change Portfolio Status Review FY00. In light of the importance attached to this issue, STAP will convene an Expert Group workshop on Adaptation and Vulnerability during FY01.

option to provide energy services, portable water and raw materials for mariculture production and (d) traditional renewable energy (solar, photovoltaic, wind, geothermal and micro-hydro).

### **3.4 Comprehensive Disaster Management Strategy:**

The need for a CDMS for SIDS was highlighted as a priority area given the range of hazards faced by these countries. Such a strategy would enable SIDS to deal with all types of hazards, including oil spills, at all stages of the disaster management continuum from prevention and mitigation to response and recovery.

### **3.5 Facilitation of Inter- and Intra-Regional Collaboration:**

Increase inter- and intra-regional collaboration between SIDS concentrated in the various regions of the world was identified as important in building capacity in SIDS and facilitating the exchange of experiences including technology transfer and increasing the impacts of interventions in SIDS. A number of modalities were highlighted which could facilitate such a process, namely (a) the inclusion in all of GEF financed regional activities for SIDS, resources to specifically facilitate exchange of experiences, etc. between SIDS from various regions (b) the Strengthening of the Small Island Developing States Information Network (SIDSNET). This mechanism could be used for the exchange of information and results in GEF projects as well as provide a platform for electronic exchange of news between SIDS and critical issues relevant to the GEF.



**STAP Brainstorming on  
Small Islands Developing States  
The Sustainable Development of SIDS:  
Opportunities for GEF Interventions  
17-18 February, 2000  
Barbados**

**Draft Programme**

**Day 1**

**17 February, 2000**

- 8.30 a.m. – 9.30 a.m. Welcome and Opening Remarks – Prof. M. Gadgil – Chairman of STAP.
- Address: H.E. Dr. John Ashe, Council Member, Caribbean Constituency, GEF
- Address: H.E. Tuiloma Slade, Chairman, Alliance of Small Island States
- Address: Representative of the Government of Barbados
- 9.30 a.m. – 10.00 a.m. Coffee Break
- 10.00 a.m. – 10.15 a.m. Aim and Objectives of the Brainstorming Session. Dr. Shuzo Nishioka, STAP Member
- 10.15 a.m. – 10.35 a.m. SIDS in the Context of the GEF – GEF Secretariat and Implementing Agencies
- 10.35 a.m. – 11.15 a.m. Implementation of the SIDS Programme of Action: Representative of the SIDS Unit, Commission on Sustainable Development
- 11.15 a.m. – 1.00 p.m. Panel: Implications of Climate Change Adaptation and Vulnerability - Dr. Shuzo Nishioka, STAP; Prof. Lino Briguglio, Island and Small States Institute, University of Malta, Dr. John Hay, University of Waikato, Representative from Maldives (t.b.d.)
- Discussion
- 1.00 p.m. – 2.00 p.m. Lunch
- 2.00 p.m. – 4.00 p.m. Panel: Investing In the Environment to Minimize Environmental Degradation: Coastal and Ocean Management and its Implications for Sustainable Resource Use – Prof. B. Persaud, Advisor, CARICOM, Prof. Randy Thaman, University of the South Pacific; Mr. Raj Prajag, Regional Project Co-ordinator, ROSCPP, Mauritius.

4.00 p.m. – 4.20 p.m. Coffee

4.20 p.m. – 6.00 p.m. Panel: Natural and Environmental Disasters: Jeremy Collymore, Director, CDERA; Scientists from South Pacific and Indian Ocean (t.b.d.)

**Day 2 18 February, 2000**

8.30 a.m. – 9.30 a.m. Panel Energy: Strategies for Small Islands Developing States – Prof. Al Binger, Director UWICED, Jamaica

9.30 a.m. – 10.15 a.m. An Emerging Technology CASI – Mr. Herbert Ripley, President, Hyperspectral Data International Inc., Canada

10.15 a.m. – 10.35 a.m. Coffee

10.35 a.m. – 4.00 p.m. Working Group Sessions: Means of Implementation

- (i) Capacity Building
- (ii) Transfer of Environmentally-Sound Technologies

4.00 p.m. – 5.00 p.m. Report of the Working Group Discussion

Summary of Main Conclusions

5.00 p.m. Closure of Meeting

**STAP Brainstorming on  
Small Islands Developing States  
The Sustainable Development of SIDS:  
Opportunities for GEF Interventions  
17-18 February, 2000, Barbados**

**List of Participants**

**Invited Experts**

1. Prof. Al Binger  
Director, UWICED  
Centre for Environment and  
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