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REPORT OF THE STAP WORKSHOP  
ON INTEGRATING SCIENCE AND TECHNOLOGY  
INTO GEF OPERATIONS  
CHENNAI, INDIA  
JANUARY 5-7, 1999

(Prepared by the Scientific and Technical Advisory Panel)

**Report of The  
STAP Workshop  
on Integrating Science and Technology  
in GEF Operations**

**Chennai, India  
January 5-7, 1999**

*Prepared by  
The Scientific and Technical Advisory Panel (STAP)  
Of the Global Environment Facility (GEF)  
and  
Committee on Science and Technology Co-operation in  
Developing Countries (COSTED)*

**STAP Secretariat  
United Nations Environment Programme**

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## Preface

It is a pleasure to present the “*Report of the STAP Workshop on Integrating Science and Technology in GEF Operations*” held on January 5-7, 1999 at Chennai, India at the Secretariat of the Committee on Science and Technology Co-operation in Developing Countries (COSTED). The workshop was convened by STAP in collaboration with COSTED. It attracted representation from global and regional scientific and technical organisations, associations of scientists and global research programmes with major activities in developing countries as well as individual scientists and technologists.

The Workshop was convened in response to the New Delhi Statement of the First GEF Assembly, which mandates the GEF to build strong relationships and networks with the global scientific community, especially with national scientists and scientific institutions in recipient countries. The workshop not only served to establish a dialogue with global and regional scientific and technical networks, but also provided very useful suggestions for mechanisms to facilitate greater participation of the scientific and technical community in GEF work.

The Report contains a number of specific recommendations which should be considered for inclusion into the GEF overall strategy for mobilizing the wider scientific and technical community in GEF operations.

This workshop report was prepared by the STAP Secretariat.

Prof. Madhav Gadgil  
STAP Chairman

January, 1999

## INTRODUCTION

1. Much of the scientific research needed to generate the reliable information that would enhance our understanding of global change must be performed at the local and regional level in developing countries. So much research is needed to improve our understanding of the earth system that the world can no longer afford to under-utilize the scientific and technical talent available in developing countries<sup>1</sup>.
2. Notwithstanding this, decision-makers on the one hand, more often than not, do not have the scientific and technical information needed to make informed decisions about the design and implementation of the most cost-effective GEF projects. While on the other hand, scientists and technologists have limited participation in the project development and implementation process. Consequently, there is a recognised need to increase the number of scientific and technical experts in developing countries who understand the complex scientific, technical and technological issues associated with the four focal areas of the GEF.
3. This recognition was echoed by the Chief Executive Officer of the GEF when he underscored the importance of the involvement of the wider scientific and technical community at the national level in countries where GEF projects were being implemented<sup>2</sup> and in *The New Delhi Statement of the First GEF Assembly* which was adopted by acclamation at the First GEF Assembly convened in New Delhi, India in April, 1998. The Scientific and Technical Advisory Panel (STAP), the body in the GEF, charged with the responsibility of interfacing with the wider scientific and technical community, has a very important role to play in following up the recommendation of the GEF Assembly. Recognising this role, STAP has identified the mobilization of the wider scientific and technical community in GEF work as a priority issue.
4. Mobilization of the wider scientific and technical community in GEF work could serve a number of important functions including but not limited to:
  - Contributing to the strategic advice which STAP presents on GEF operations and programmes and development of methods of assessing the efficacy of ongoing GEF programmes;
  - Assist in building capacity and enabling the developing countries to design and implement programmes/projects that would further GEF objectives;
  - Strengthen the scientific underpinning of GEF projects mainly through the inclusion of research and monitoring components in the projects as well as in priority setting; project conceptualization, formulation, implementation and evaluation.
5. To assist in determining the elements which could form the basis of a GEF strategy for the mobilization of the wider scientific and technical community in GEF work, STAP in collaboration with the Committee on Science and Technology Co-operation in Developing Countries (COSTED) convened a workshop on the theme "*Integrating Science and Technology into GEF Work*" in Chennai, India from January 5-7, 1999.
6. The workshop attracted representation from global and regional scientific and technical organisations, associations of scientists and global research programmes with major activities in developing countries as well as individual scientists and technologists.
7. The objectives of the workshop were:

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<sup>1</sup> UNEP/STAP Justification for Research Activities that Support the Global Environment Facility, Related Conventions and International Scientific Assessment, UNEP/STAP, July 1994 (unpublished).

<sup>2</sup> UNEP/STAP Report of the Seventh Meeting of the STAP, Washington, D.C. 25-27 November, 1996.

- (i) To establish a dialogue with global and regional networks of scientific and technical organizations, associations of scientists and technologists on how they can be more effectively involved in GEF work;
- (ii) To identify the most appropriate mechanisms to involve the scientific and technical community at the national level in the different phases of the GEF project cycle;
- (iii) To examine how global and regional networks, associations and programmes could be used more effectively in involving scientists and technologists at the national levels where GEF projects are being implemented;
- (iv) To assist STAP in defining the elements of a “Programme of Action” to mobilize the wider scientific community in GEF operations, with a focus on scientists, and scientific/technical institutes/organisations at the national and regional levels.

8. The workshop was structured in five distinctive phases, namely (see also Annex 1):

- (i) An official session which was addressed by the Hon. Professor K. Anbazhagan, State Minister of Education with responsibility for Science and Technology, Government of Tamilnadu; Dr. Klaus Töpfer, Executive Director of UNEP; Dr. Kenneth King, Assistant CEO, GEF; and Mr. Nirmal Andrews, Operational Focal Point for GEF in India.
- (ii) A thematic segment during which presentations were made on the state of science in the focal areas of biodiversity, climate change and international waters as well as the response of the GEF in addressing these issues in a global context;
- (iii) A review of the work of some of the major regional and global networks with an interest and focus on areas addressed by the GEF;
- (iv) Case studies based on current GEF experience with the view of not only identifying opportunities for the involvement of the wider scientific and technical community in GEF work but also the identification of areas which require improvement. The case study of the Indian experience, the second largest GEF recipient in terms of resources committed, featured prominently in this segment of the programme.
- (v) Working group sessions in which discussion focused on the elements which should be considered in GEF overall strategy aimed at the mobilization of the wider scientific and technical community in GEF work.

The outputs of the Working Groups included the formulation of recommendations which were discussed and adopted by the workshop.

### **THE NEED FOR GREATER UNDERSTANDING BY DEVELOPING COUNTRY SCIENTISTS OF THE COMPLEX SCIENTIFIC, TECHNICAL AND TECHNOLOGICAL ISSUES ASSOCIATED WITH THE GEF FOCAL AREAS**

9. Science and technology have not only become essential tools of development, but also contribute significantly to our understanding of the issues relevant to global change and the formulation of strategies for addressing them. Since the mid 1980s, a number of global conventions have been negotiated and adopted by the international community namely: the Vienna Convention for the Protection of the Ozone Layer (1985) and the Montreal Protocol on Substances that Deplete the Ozone Layer (1987), as amended in London (1990) and Copenhagen (1992); the Convention on Biological Diversity (CBD) (1992) and the Protocol on Biosafety (1999); the United Nations Framework Convention on Climate Change (1992) and the Kyoto Protocol to the UNFCCC (1997) and the Convention to Combat Desertification in those Countries Experiencing Serious Drought and/or Desertification, particularly in Africa (CCD)(1994).

10. Of these Conventions, GEF serves as the financial mechanism for the CBD and UNFCCC Conventions, and provides resources for the phasing out of ozone depleting substances, primarily in the countries with economies in transition. Though GEF is not the financial mechanism for the CCD, the incremental cost of land degradation activities as they relate to the GEF focal areas are eligible for GEF funding.<sup>3</sup>
11. These international legal instruments along with the numerous other international<sup>4</sup> and/or regional environmental treaties, typically contain a number of articles that require scientific and technical co-operation and expertise. For example, the UNFCCC requires signatories to develop national strategies and plans that require a significant amount of scientific and technical knowledge; to develop national emission inventories for greenhouse gases, and national strategies and plans to mitigate and adapt to climate change. In addition, there are a number of scientific and technical uncertainties associated with climate change whose resolution is required for scientifically sound and cost-effective GEF interventions. The CBD requires signatories to inventory their biodiversity. The Vienna Convention requires national action plans to eliminate ozone depleting substances.
12. In addition to enhancing understanding of the above, scientific and technical knowledge could also significantly contribute, *inter alia* to the improved identification, design and implementation of the most appropriate and cost-effective GEF technical assistance and/or investment projects in a particular country clarifying the relationship between global, national and regional benefits and in the calculation of incremental costs. There are also numerous areas in GEF operations which could benefit significantly from the inputs of the wider scientific and technical community.
13. There is therefore a compelling need for scientific and technical community in developing countries to become more actively involved in global environmental issues; and in particular, how these issues can be addressed in the context of the GEF. A more robust and active scientific and technical community, particularly from developing countries, actively participating in GEF operations, would not only lead to more cost-effective design and implementation and sustainability of GEF and other technical assistance and investment projects, but also increase these countries' ability to meet their obligations under the conventions (e.g. development of national strategies and plans), enhance their participation in international scientific and technical assessments and facilitate more effective participation in the scientific and technical subsidiary bodies of environmental conventions.

#### **CONSTRAINTS MITIGATING AGAINST THE EFFECTIVE PARTICIPATION OF THE WIDER SCIENTIFIC AND TECHNICAL COMMUNITY IN GEF OPERATIONS**

14. The meeting identified a number of constraints which have impeded a more active involvement of the scientific and technical community in GEF work. The constraints identified relate mainly to the lack of adequate mechanisms at the national, regional and international levels to facilitate the systematic participation of the scientific and technical community in GEF operations, on one hand, and the lack of outreach on the part of the GEF towards the scientific and technical community, on the other. GEF has not yet succeeded in building relations with networks of scientists and technologists, whilst the scientists and technologists have had little exposure to GEF, its operations and its implications for their work in the area of global change.

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<sup>3</sup> GEF. Instrument for the Establishment of the Restructured Global Environment Facility. GEF, Washington, D.C. 1994.

<sup>4</sup> There have been a number of other international agreements on the protection of biodiversity (Ramsar Convention, 1992; Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) 1973; Paris Convention on the Protection of the World Cultural and Natural Heritage, 1972; and the Bonn Convention on Migratory Species, 1979 and in International Waters (UN Convention on the Law of the Sea (UNCLOS), 1982; the London Dumping Convention, 1972; International Convention for the Protection of Pollution from Ships (MARPOL), 1973/78; International Convention on Oil Pollution Preparedness, Response and Co-operation (OPRC), 1990, as well as a number of regional treaties.

### **At the national and regional level**

- Lack of an adequate institutional mechanism for GEF activities and a process at the national level to facilitate the active participation of the scientific and technical community in the conceptualization, formulation, implementation and monitoring of GEF interventions;
- Lack of awareness of the GEF operational strategy and programmes, the opportunities for scientific and technical community and the complementarity between GEF interventions and the activities of the scientific and technical community;
- Scientists in recipient countries are not sufficiently knowledgeable of GEF project development modalities and how to access GEF resources;
- Scientists not organized to sensitize the operational focal point on the need and added value to involve the scientific and technical community in all the phases of the GEF project cycle.

### **At the international (institutional) level**

- A major constraint at the international level was identified as institutional in character. This related mainly to the perceived lack of a “policy framework” for engaging the scientific and technical community in GEF operations.
- Lack of an adequate mechanism for interaction between the scientific and technical community and GEF and Implementing Agencies. Though STAP provides a conduit for interfacing with the GEF, as presently constituted it was too limited, mainly because of the absence of a support mechanism at the regional and national levels;
- Lack of an explicit policy provision to facilitate the engagement of the scientific and technical community by the Implementing Agencies in GEF project related activities;
- Lack of outreach from GEF towards the scientific and technical community and information on GEF operations that are tailored to the specific needs of this community.

### **ELEMENTS/RECOMMENDATIONS TO BE CONSIDERED FOR MORE EFFECTIVELY INTEGRATING THE SCIENTIFIC AND TECHNICAL COMMUNITY IN GEF**

15. The meeting identified a number of elements/areas which STAP should consider to be included into an overall strategy for more effectively integrating the wider scientific and technical community in GEF operations. The recommendations are targeted at different levels; namely at the policy level: the GEF (GEF Secretariat, Implementing Agencies and STAP); regional and/or sub-regional level aimed at regional/sub-regional networks and at the national level, with particular reference to the operational focal points (OFP).

### **POLICY LEVEL**

16. **Identification of gaps in GEF Operations:** There is a need for the GEF to identify the major gaps in GEF operations from a thematic, programmatic and policy stand point which require further scientific and technical input. Once this is achieved, the issues identified through this process, could then be used as a basis for targeting more specifically the segments of the scientific and technical community which could provide the best input on GEF operations. For this to be effective however, a clear mechanism would have to be put in place to facilitate the inputs of those institutions networks which have been identified. The identification of the major gaps in GEF operations is considered as being critical to address the issue of mobilization for what purpose and as a means of not creating false expectations among the community.



17. **Creation of a Policy Framework:** It was generally felt that in order to ensure that the local scientific and technical community is involved in GEF operations, particularly in projects which are being undertaken, policy guidance should be given to the Implementing Agencies that specific reference be made to how the scientific and technical community have been involved in the project preparation process as one of the stakeholders. This should be reflected in the Annex on Stakeholder Participation Plan.
18. **Targeted Research Framework:** Targeted Research projects financed by the GEF could be designed in such a way so as to facilitate the participation of the scientists and technologists in GEF operations. In other words, GEF Targeted Research Framework could be used as a modality for involving the scientific and technical community in GEF operations while at the same time ensuring that the interventions are targeted to achieving the objective as set out in GEF targeted research policy. Further consideration should be given by STAP as to how this could be achieved in the context of GEF Targeted Research Policy.
19. **Strengthening of Partnership between the GEF and the Scientific and Technical Community:** Greater emphasis should be placed on the strengthening of partnership between the GEF and the scientific and technical community. Such a partnership should be based on substantive input into GEF operations by the scientific and technical community. To facilitate this process the extension of the NGO consultation to include the involvement of the scientific and technical community and/or a similar mechanism comprising of scientists and technologist is being recommended. This, it is felt would be an effective starting point in building a substantive partnership between the GEF and the scientific and technical community.
20. To achieve this objective, guidelines should be formulated as soon as possible, if this has not yet been done, for scientific and technical networks/institutes to become accredited to the GEF. Consideration could be given to the establishment of a scientific and technical forum chaired by STAP to coincide with GEF Council Meeting and/or one of the STAP meetings. Emphasis in such a forum could be placed on the scientific and technical requirements of the GEF. Such a mechanism would provide a flow of information from the regional and national levels to STAP and the GEF and vice-versa.
21. **Greater Use of STAP Roster of Experts:**
  - In order to increase the use of STAP Roster of Experts from developing countries in GEF projects, all GEF projects should be reviewed by at least one roster expert for a developing country. This could be done on an experimental basis in the first instance;
  - Specialised Assignments: From time to time specialised expertise is required to further facilitate GEF operations. For example, expertise might be required in the development of scientific indicators that would measure project impact in the GEF focal areas. Where such a need arises, consideration could be given to utilising the experts in the STAP Roster where necessary and appropriate. Such activity would be consistent with STAP's role and function in the GEF;
  - Involvement in the Workshops/Brainstormings: In the implementation of its mandate STAP should seek to canvass the widest possible scientific and technical opinions on issues relevant to GEF. STAP should ensure that the expertise of Roster experts are drawn upon where necessary in its workshops and brainstorming sessions. A similar approach could be adopted by the GEF family in general. For example, the convening of workshops for enabling activities in climate change and biodiversity in specific regions could draw upon STAP Roster of Experts in those regions;
  - Involvement in Selective Reviews: Experts could be drawn from the roster to participate in site visits which are an integral part of selective reviews of projects by STAP;

- Strengthening of partnership between STAP and regional and international networks: the need exists for STAP to strengthen its partnership with regional and international networks. This, it was recommended through a number of ways including but not limited to the convening of “GEF Sessions” during regional and/or international meetings of these bodies. The session conducted during the Indian Science Congress was cited as an example. Another suggestion is the convening of “GEF Science Forums” either to coincide with at least one STAP meeting; the GEF Council meetings and/or one of the meetings of networks.
22. **Information Package:** The need for an information package designed and tailored to the specific needs of the scientific and technical community was identified as an immediate priority. The guidelines outlined for such an information package may be summarised as:
- (i) It should clearly be established why the scientific and technical community from developing countries must be involved in the GEF;
  - (ii) It should be in a language that can be understood by scientists/technologists addressing themes such as GEF operational strategy and programmes, the project cycle, the categories of projects supported and not supported by the GEF, the organisational structure of the GEF etc.;
  - (iii) The role of the scientific and technical community can play in assisting the Implementing Agencies of the GEF, the OFP and the nodal Ministries in identifying priority areas for GEF interactions, in formulating project concepts, in executing project components, and in reviewing monitoring and evaluation of projects;
  - (iv) The information package should be developed by STAP in collaboration with the other GEF partners and the scientific/technical community. The country specific information package would be developed by the countries themselves with the assistance of existing regional and/or national centres of excellence.
23. In addition to sensitising the scientific and technical community to the opportunity provided by the GEF and provide information that will allow them to reorient their research to GEF priorities where necessary it would constitute a basis for the development of country specific information packages for the scientific and technical community. The country specific information package should contain country specific information such as the mechanism put in place at the national level to involve the scientific and technical community, the contact for the OFP, the list of projects funded and/or in the pipeline, priority areas as identified by the respective governments for GEF intervention, including those identified in national communications.
24. With respect to information dissemination it was recommended that any strategy that is formulated should not only target the natural sciences but also the social sciences including those addressing technical “ethno-scientific” and socio-economic concerns. The latter was considered as particularly relevant in biodiversity related issues.

### **Regional/Sub-regional level**

- **Establishment of a Roster of Networks:** STAP should initiate a process leading to the establishment of a roster of scientific and technical networks. The roster of networks would be supplementary to the STAP Roster of Experts and would facilitate communication flows with downstream scientific and technical entities.
- **Greater Utilisation of Regional Nodes:** A number of regional nodes already exist in various regions for facilitating co-operation between scientists and technologists such as National Science Academies with Standing Committees (e.g. as SCOPE). Using these nodes as focal points, regional and/or sub-regional “STAP” and/or Regional S&T Panels” could be established where practicable and necessary.

Such entities could play a role in assisting the regions in which they are based and by extension the GEF in identification of the scientific and technical priorities which could be addressed in regional, sub-regional or transboundary context. Such advice could then form the basis for GEF interventions in a particular region. Such nodes could also play important role of information dissemination and the preparation of best practices. These could then be incorporated in the GEF “best practice” workshops and dissemination exercise. This recommendation is supported by a GEF financial capacity building project for Asia (ALGAS) which identifies the need for formation of an Asian Regional Expert Panel to support GEF activities in that sub-regions.

- **Preparation of Information Package for the Scientific and Technical Community and Delivery of Regional Dialogue Workshops:** The need for the various networks to be involved in the designing of an information package, specifically targeted to increasing the awareness among the scientific and technical community on GEF operations was emphasised. The need for some of the resources allocated for the proposed country dialogue workshops to be allocated for “regional dialogue” sessions with scientists and technologists and/or regional/sub-regional networks was also emphasised. This is being suggested as an effective way of reaching local scientists, since regional/sub-regional networks build upon the participation of local scientists.

### **National level**

25. The meeting concluded that there is an urgent necessity for the establishment of a mechanism to support the OFPs at the national level to ensure that the best available scientific and technical information is incorporated in all proposals submitted to the GEF. To facilitate this, the OFP should promote the participation of local scientific and technical institutions in project preparation, implementation reviews and evaluation.
26. To achieve this objective the meeting recommended the establishment of National Multidisciplinary Mechanisms to support the work of the OFP. Such a mechanism would include representation from the scientific, technical and engineering community. Such a multidisciplinary group co-ordinated by the OFP would assist the OFP in project reviews portfolio development, project monitoring etc.

## AGENDA

**DAY 1**      **Tuesday, January 5, 1999**

- 9.30      Official opening  
 Chair           : **Mr. Nirmal Andrews**, Joint Secretary to the Government of India,  
 Ministry of Environment & Forests  
 Statement       : **Prof. Madhav Gadgil**, Chairman, STAP  
 Statement       : **Dr. G. Thyagarajan**, Scientific Secretary, COSTED  
 Statement       : **Dr. Kenneth King**, Assistant CEO, GEF Secretariat  
 Statement       : *Dr. Klaus Topfer*, Executive Director of UNEP/  
 UN Under Secretary General  
 Official opening  
 Inaugural Address:   **Hon. Prof. K. Anbazhagan**, Minister for Education,  
 Govt. of Tamil Nadu
- 10.15      Coffee
- 10.45      **Chair : Dr. Peter Bridgewater**  
 Structure, Aims and Objectives of the Workshop - **Prof. Madhav Gadgil**  
 Overview of key scientific and technological issues and uncertainties in the areas of:  
 - Climate change       - **Dr. A. P. Mitra**;  
 - International Water (Marine and Freshwater) - **Dr. Anond Snidvongs**.  
 Discussion
- 1.00 pm.    Lunch
- Chair : Dr. Niels Maagaard,**  
**Deputy Resident Representative, UNDP**
- 2.00      Overview of how GEF has responded to Global Environmental Issues  
**Dr. Kenneth King**, Assistant CEO, GEF Secretariat  
 Discussion
- 3.30      Coffee Break
- 3.45      Engaging the Scientific and Technical Community in GEF operations  
 The Role of Scientific and Technical Networks -Representatives of the Various  
 Networks  
 1. SCOPE       - **Dr. Veronique Plocq Fichlet**  
 2. TWAS       - **Prof. M.H.A. Hassan**  
 3. COSTED     - **Dr. G.Thyagarajan**  
 4. APN       - **Mr. Hideyuki Mori**  
 5. Energy      - **Prof. S. C. Bhattacharya**  
 6. TRANIL     - **Dr. Bernad Weniger**  
 7. UNDP-SUDC - **Mr. Suchit Nanda**
- 5.30      Promoting Best Practices for Conservation and Sustainable Use of Biodiversity of  
 Global Significance in Arid and Semi-Arid Zones. An Example of a GEF Medium  
 Sized Project Aimed at Mobilizing the Wider Scientific and Technical Community -  
**Prof. M.H.A. Hassan**
- 6.00      Summary of Day 1

**DAY 2**                      **Wednesday January 6, 1999**

9.00                      **Chair : Dr.V.P. Sharma, SCOPE, India**  
Presentations by Networks:  
\* **START - Dr.A.P.Mitra**  
\* **Energy - Dr.L.Saravia**  
\* **Bioresources - Dr.Maurice Iwu**

GEF Targeted Research: Does it Provide an Opportunity for Involvement of the  
Wider Scientific and Technical Community:  
**STAP - Dr. Mark Griffith**  
Discussion

10.00                      RET Projects: Opportunities for the Wider Scientific and Technical                      Community.  
GEF Secretariat/GEF/World Bank - **Dr. Kenneth King**  
Discussion

11.00-11.15              Coffee

11.15                      The GEF and the Wider Scientific and Technical Community:  
A perspective from a recipient country (India)  
**1. Mr. Nirmal Andrews,**  
**2. Dr. Pradeep Monga**  
**3. Prof. Norman Myers**  
Discussion

12.40                      Formation of Working Groups - STAP  
**Dr. Peter Bridgewater**

1.00                      Lunch

2.00-6.00                Working Group Discussion

**DAY 3**                      **Thursday January 7, 1999**

9.00                      Continuation of Discussion groups

10.30                      Coffee

10.15                      Continuation of Discussion groups

11.00                      Presentations by discussion groups  
Discussion

1.00                      Lunch

2.30                      Consideration for the Involvement of Scientists and Technologists in GEF Work:  
elements of a Programme of Action

5.00                      Closure of the meeting

**STAP Workshop on Integrating the Scientific and Technical  
Community in GEF Operations, January 5-7, 1999, Chennai, India**

**List of Participants**

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