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PRIORITIES PROPOSED BY THE RECONSTITUTED STAP FOR FY00-02

[Prepared by the Scientific and Technical Advisory Panel (STAP)]

Note by the GEF Secretariat:

Paragraph 93 of the GEF Corporate Business Plan, FY00-FY02, notes that “STAP is designing its work program around the strategic needs of the GEF for timely scientific and technical advice.” The attached document elaborates upon the priority issues which STAP proposes to address in FY00-FY02.

PRIORITIES PROPOSED BY THE RECONSTITUTED STAP FOR FY00 – FY02

*Prepared by the GEF Scientific and Technical Advisory Panel
September, 1998*

STAP Secretariat
United Nations Environment Programme

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PREFACE

It gives me great pleasure in presenting these proposals for your consideration. You will recall that at the Eleventh GEF Council Meeting held in New Delhi, India from March 30-31, 1998, the Council noted that it looked forward to being informed of the priorities proposed by the reconstituted STAP at the Council Meeting in October.

This note has been prepared by the STAP Secretariat with inputs from STAP, both STAP I and current STAP; the GEF Secretariat and the Implementing Agencies. The results of the strategic planning sessions of the First Meeting of STAP II held in New York from September 14-17, 1998 have been incorporated into this document.

Prof. Madhav Gadgil
STAP Chairman

Introduction

1. At the first meeting of the Search Committee for STAP Reconstitution¹ it was agreed that the issue of the profile and type of expertise required for the next phase of STAP should be addressed in relation to the priorities of work programme of STAP for the next phase as well as GEF priorities as reflected in the Business Plan for FY99-FY2001. Inputs were solicited from the GEF Secretariat, the Implementing Agencies, as well as the outgoing STAP based upon their experience in the GEF. In addition, the First Meeting of STAP II convened from September 14-17, 1998 took the form of a strategic planning with the view of further defining the priority issues which STAP could address during GEF II. The GEF Secretariat, Implementing Agencies and the subsidiary bodies of environmental conventions, particularly those for which GEF serves as the financial mechanism, participated in the strategic planning session.
2. The current document is prepared on the basis of GEF priorities as reflected in the corporate business plan of FY99-FY2001.
3. During GEF II, it is expected that the STAP work programme will become more tightly integrated with the overall GEF work programme for operations, policy development (including operational responses to any new convention guidance), and monitoring and evaluation. STAP's work will be primarily demand-driven responding to the operational needs of the GEF Secretariat and the Implementing Agencies. The main focus of STAP's work will be to provide strategic advice to the GEF on scientific and technical issues at critical times when such advice can maximally influence the development of policy and new Operational Programmes, selective scientific and technical review of projects, advice through the Research Committee on targeted research projects, management and maintenance of the Roster of Experts to ensure the scientific and technical soundness of GEF projects, mobilization of the wider scientific and technical community in GEF work and advice on modalities for technology transfer and innovation.

Strategic Advice

General

4. In general STAP increased its focus on a number of issues including:
 - (a) Greater emphasis should be placed on involving the private sector in STAP's work. To this end STAP capacity in private sector involvement should be broadened as a means of increasing STAP strategic partnerships;
 - (b) A major area of focus for STAP in the future will be inter-linkages between the focal areas. A number of specific issues identified which should be addressed by STAP under this theme include:
 - (i) Carbon Sequestration. The focus could be on two sets of issues namely sequestration by the growing of trees to extract CO₂ from the atmosphere via photosynthesis and decarbonization of carbonaceous fuels to produce hydrogen (H₂) plus sequestration in geological (underground) reservoirs of the CO₂ separated out during H₂ production;

¹ The Search Committee for STAP Reconstitution was established by the Executive Director of UNEP in accordance with the mandate entrusted to UNEP in "The Instrument for the Establishment of the Restructured GEF. The Search Committee commenced its work in September 1997 and concluded it in March 1998 with recommendation to the Executive Director of UNEP on the Reconstituted STAP.

- (ii) Land-based sources of marine pollution and its implications for land-use planning, biodiversity and international waters;
- (iii) The relationship between biodiversity and climate change, e.g. how to embed biodiversity models into climate change models;
- (iv) Closely related to this is the issue of information generation, processing and dissemination;
- (v) Coastal habitat degradation/climate change linkage.

Climate Change

5. In the focal area of climate change focus should be placed on the following:

- (i) a number of important classes of initiatives relating to energy technological innovation for developing countries, in particular:
 - (a) *Capacity-building for energy technology assessment in developing countries:* A good technology assessment capacity is needed in order to better inform the energy-planning process about opportunities for meeting sustainability objectives with alternative technologies, because energy technological needs in developing countries are generally different from those in industrialized countries². Energy technology assessment capacity is almost non-existent in developing countries;
 - (b) *Co-operative energy R&D between industrialized and developing countries:* Co-operative energy R&D initiatives would help build energy R&D capacity in developing countries, improve the prospects that energy technology developed in industrialized countries for developing country markets will be well-matched to developing country needs, and facilitate the process of technology transfer. Co-operative energy R&D to be encouraged should include various kinds of collaborations among industry, government, and university research communities, including industrial R&D joint ventures³;

Particular attention will be placed on international energy R&D and engaging the science and engineering research communities in the development and demonstration of new, climate friendly energy technologies and practices. There has been a tendency for the GEF to focus on the near-commercial options, and to leave development and the further advance of new options to the research labs which primarily are in the industrial countries. Since there is a need to involve scientists and engineers from developing countries in the work of the GEF as well as in the development of options to address environmental concern more generally; this will be central to finding sustainable technologies and practices suitable for developing (as well as the industrial) countries.

² See Chapter 5 in Reddy, A.K.N.; R.H. Williams and T.B. Johansson 1997. *Energy After Rio: Prospects and Challenges*, UNDP, New York

³ STAP, 1996. *International Industrial Collaboration for Accelerated Adoption of Environmentally Sound Energy Technologies in Developing Countries*. Report prepared by STAP of the GEF, Nairobi, Kenya

- (c) *Commercialization strategies for buying down the prices of advanced energy technologies that are compatible with sustainability objectives*: The substantial public benefits that would arise from the successful commercialization of such technologies justifies public sector support not only for R&D (which private firms tend to invest in at sub-optimal levels) but also for *accelerating* the commercialization of such technologies that are commercially ready;
- (d) *Demonstration Projects*: STAP will continue to stress the importance of demonstration projects as a means of *inter alia* testing the application of new technologies; and opportunities of scaling up demonstration projects and advising the GEF on strategies for maximising the potential benefits of demonstrations in implementing the GEF operational programme.

Particular emphasis will be placed on grid-connected applications of solar energy – photo-voltaics and solar-thermal. The GEF has made a good start in its first phases in supporting of grid applications. But the opportunities for grid connected applications are immense, and are the next logical economic phase of the GEF’s work in this area, as many companies and the energy research community have rightly discerned. STAP will explore options for encouraging the implementing agencies and their partners to work in this direction, and the possibility of the GEF financing projects in developing countries to demonstrate the options.

- (e) *Adaptation*: Further consideration of the scientific and technical aspects of adaptation;
- (ii) An analysis of incremental cost considerations for energy efficiency improvement;
- (iii) Refinement of methodological approaches and indicators that can assist in tracking performance and impact of the operational programmes;
- (iv) Improvement of measurement and assessment of impact of indirect measures for removal of market barriers for energy conservation, including baseline identification, boundary definition etc.
- (v) Analysis of grid and off-grid applications in the energy sector with a focus on the main technologies which are central to the operational programmes.

In addition, STAP will address issues such as:

Innovation in the basic materials processing industry; Carbon Sequestration; Integrated Resource Planning including energy efficiency issues; and the Transport Sector.

International Waters

- 6. In the international waters focal area a number of activities have been identified which should be addressed by Phase II of STAP:
 - (i) The Global International Waters Assessment (GIWA): STAP should provide scientific advice and be involved as required during the three years of GIWA which will produce results in time to influence Phase III of the GEF;
 - (ii) Emerging Technologies: STAP II should be building upon the experiences of STAP I and promote demonstration of the new technologies in planned GEF International Waters project. Particular emphasis will be placed on remote sensing technologies and techniques; bio-indicators especially for tropical regions technologies aimed at the removal and control of nutrients from agriculture practices and low cost removal from municipal point services;

emerging technologies in pollution prevention as well as integrated watershed management models as a basis for water sharing policy development;

- (iii) Ground water Resources: Emphasis will be placed on ground water resources given its current limited focus in the GEF. Particular emphasis will be placed on dryland ecosystems;
- (iv) Persistent organic pollutants (POPs): Consideration will be given to POPs particularly with respect to the establishment of criteria or guidelines for their management especially in tropical environments.
- (v) The need to review the relationships between GEF projects in international waters and those in the focal areas of biodiversity and climate change and the linkages between issues in these three portfolio areas, has been identified by STAP 1 as an issue requiring attention;
- (vi) Emerging issues on small island development states.

Biodiversity

7. In the biodiversity focal area the following issues will be central to STAP's activities:

- (i) To support the shift in emphasis from classical protected area establishment towards addressing root causes in biodiversity and promoting biodiversity conservation and sustainable use in systems under productive use in order to achieve sustainable development; STAP will focus attention on issues such as the interplay between local and global benefits; sustainable use and the concept of benefit sharing including consideration of green markets and their implications for the GEF in terms of what types of projects could result; the use of incentives should be viewed in this context;
- (ii) Assist GEF in internalising the new guidance from the Conference of the Parties of the Convention on Biological Diversity. Emphasis will be placed on issues such as agrobiodiversity, fair and equitable sharing of the benefits of genetic resources, biosafety, taxonomy and development of indicators for biodiversity;
- (iii) The importance and use of taxonomic information for biodiversity conservation and sustainable use.

Land Degradation as it Relates to the Other Focal Areas

8. In the cross-cutting area of land degradation as it relates to the other focal areas STAP will:

- (i) Continue its efforts to better define the linkages between land degradation, particularly desertification and deforestation, and its focal areas, with the view of facilitating the increase of GEF support for land degradation activities as they relate to the GEF focal areas;
- (ii) Better define the global significance of drylands biodiversity including the interplay of local and global benefits;
- (iii) Further clarification of the options relating to carbon sequestration via the growing of biomass particularly in degraded/unproductive lands.

Scientific and Technical Soundness of Projects

9. STAP will continue to ensure the scientific soundness and technical quality of GEF projects.

- ▶ *GEFOP*: STAP will participate in the GEFOP to review project proposals;
- ▶ *Project Implementation Review*: The Panel's Chairman will participate in the annual Project Implementation Review conducted by the GEF Secretariat;
- ▶ *STAP Roster of Experts*: STAP will oversee the management of the Roster of Experts including the Operational Guidelines for its use; the annual review and evaluation of the quality of reviews by Roster experts and the continuous updating of the Roster.

In addition, an analysis of the roster will be undertaken to identify existing gaps with the view of addressing those gaps.

- ▶ *Review of Medium-sized Project*: STAP will continue to undertake a periodic review of a sample of GEF medium-sized project.

Mobilization of the Wider Scientific and Technical Community in GEF Work

10. A major priority will be the building of strong relationship and networks with the wider scientific and technical community in GEF work particularly at the national level in countries where GEF projects are being implemented.

11. Implicit in STAP's role and mandate in the provision of objective, strategic scientific and technical advice on GEF policies, operational strategies and programmes, is the notion of interfacing with the mobilization of the wider scientific and technical community as well as the notion of scientific and technical networking. STAP will continue to perform the role as the interface between the GEF and the wider scientific community particularly any key issues impacting on GEF operations. STAP will act as the conduit through which the wider scientific community can channel innovations etc. which have implications for GEF operation. In this regard STAP will continue to organise workshops on key issues identified by the GEF Secretariat and the Implementing Agencies as a means of canvassing the best available advice on these issues.

12. STAP's efforts in the mobilization of the wider scientific and technical community in GEF work will seek:

- (a) To contribute to the strategic advice which STAP presents on GEF operations and programmes;
- (b) To contribute to the development of methods of assessing the efficacy of ongoing GEF programmes;
- (c) To assist in building capacity in and enabling the developing countries to design and implement programmes/projects that would further GEF objectives;
- (d) To strengthen the scientific underpinning of GEF projects mainly through the inclusion of research and monitoring components in the projects.

13. A number of elements will constitute STAP's approach to this issue, namely:

- *Strengthening relations with existing science and technology networks*. In this regard specific reference was made to include networks in the social sciences such as ethno-botanic science networks etc.

- *STAP Expert Group Workshops* as a means of involving the wider scientific and technical community in providing inputs for strategic in GEF operations
- *Liaison with national, regional and international Science Congresses and Meetings:* To commence this process the meeting agreed to convene a one day session with the Brazilian scientists and technologists in collaboration with the Brazilian Academy of Science in October, 1998. Participants will also be invited from Chile, Argentina and Uruguay. The meeting also agreed to a workshop on "Science and Technology: Implications for GEF Operations and Programmes" to be convened in collaboration with COSTED of ICSU in Chennai (Madras) India, from January 5-6, 1999. To ensure cost-efficiency the meeting will convene back to back with the Indian Science Congress. It was also agreed that STAP should explore the feasibility of convening focused regional and/or sub-regional sessions on mobilization.
- *Incorporation of Science and Technology in GEF Projects:* The view was expressed that GEF projects in the same focal areas should be used as a vehicle for the mobilization of the wider scientific and technical community in GEF work. Specific reference was made to agro-biodiversity projects; renewable energy technologies and targeted research initiatives. In this regard specific reference was made to the World Bank proposal for renewable energy partnership.

With respect to targeted research, it was agreed that targeted research should be used as an integral part of the mobilization process. However, the efforts in this regard should be used to strengthening GEF operations and programmes. It was also suggested that in order for the mobilization process to be given substantive support, the Implementing Agencies should be required to indicate in the Stakeholder Participation Plan the specific efforts made to involve the wider scientific and technical community in GEF work

- *Strengthening of electronic communication:* This could take the form of a number of activities including the development of a STAP Home Page; electronic magazines and newsletters and electronic conferences.
- *Further Integration of the STAP Roster of Experts into GEF work:* It was agreed that a concerted effort should be made by the GEF to utilize more of the STAP Roster of Experts in other areas of GEF work, without compromising them as far as the conflict of interest provisions governing the roster is concerned. Specific areas which were specifically referred to included specialized assignments such as the development of programme and project indicators for the CAP; involvement in STAP Expert Group Workshops and brainstormings; involvement in STAP Selective Reviews; technical support for enabling activities financed by the CAP.
- *Linking the various scientific processes that underpin environmental conventions* particularly strengthen collaboration with their scientific and technical bodies.

The meeting recognized the need for specific information which could be used as the basis for the STAP mobilization efforts. The STAP secretariat was mandated to work with the GEF Secretariat in developing the information required by the panel. In addition, it was agreed that STAP mobilization efforts will take place within and complement the GEF overall outreach and communication strategy.

Selective Reviews

14. During phase II of the GEF, it will be necessary to keep up and/or expand the intensity of selective reviews. These are of crucial important for STAP's role as scientific and technical controllers since they provide STAP members with a unique chance to confront the "doers".

15. It is estimated that STAP would select about 2-3 projects per year during Phase II, as more projects would have reached advanced stages of implementation, for ex-post evaluation of the strategic scientific and technical aspects of project implementation, particularly for those projects that are innovative or contain research, monitoring and assessment components.
16. In addition, STAP will continue to monitor the implementation of projects (e.g. Lake Victoria Environmental Management Project and the Rajasthan Solar Thermal Energy Project) for which selective reviews have been initiated.

Technology Transfer and Innovation

17. An emerging issue which GEF will need to address more systematically is the processes of technology transfer, innovation and technology assessment capability, particularly in developing countries. The need to address the types of technologies and how they should be transferred will require considerable attention. To assist the GEF in addressing this operational issue STAP will place emphasis on the issue of technology development, building upon the activities in this area initiated during STAP I. STAP will also strengthen its relationship with expertise in the private sector, particularly in industry to address technological issues which underpin GEF operations.

Monitoring and Evaluation

18. In the area of Monitoring and Evaluation STAP could constantly keep under the review the Operational Programmes and where appropriate, suggest new ones based on the implementation of conventions guidance; evaluate global results and impacts of GEF work from the scientific and technical perspective; analyse characteristic features of project, namely best practices and play a role in the annual monitoring and evaluation review. It was felt that a clear distinction should be made between strategic review of science and technology in projects and general monitoring and evaluation. STAP will also co-operate with the Monitoring and Evaluation Unit of the GEF Secretariat in addressing the issue of programme and project level indicators for the GEF.