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REPORT OF THE EIGHTH MEETING OF THE SCIENTIFIC AND TECHNICAL ADVISORY PANEL II (STAP II)

(Prepared by the Scientific and Technical Advisory Panel)

Report of the Eighth Meeting of the Scientific and Technical Advisory Panel II (STAP II)

March 7-9, 2001, Washington, D.C.

STAP Secretariat
United Nations Environment Programme

Introduction

1. In accordance with its Programme of Work, the Scientific and Technical Advisory Panel II (STAP II) held its eighth meeting from March 7-9, 2001 at the World Bank, MC Building MC-CI-108, Washington, D.C.

Agenda Item 1: Opening of the Meeting

2. The opening plenary of the Seventh Meeting of STAP II commenced at 9.00 a.m. on March 7, 2001. The meeting was opened by Prof. Madhav Gadgil, Chairman of STAP who welcomed the participants to Washington, D.C.

Agenda Item 2: Adoption of the Draft Provisional Agenda and Organization of Work

A. Agenda and Organization of Work

3. The meeting adopted the draft provisional agenda and organization of work contained in UNEP/GEF/STAP II/8/2/Add.1 and UNEP/GEF/STAP II/8/2/Add.3.

B. Participation

4. The STAP members attending the meeting were Prof. Madhav Gadgil, Dr. Michel Colombier, Dr. Christine Padoch, Dr. Setijati Sastrapradja, Prof. Paola Rossi Pisa, Prof. Shuzo Nishioka, Prof. Dennis Anderson, Dr. Stephen Karekezi, Prof. Angela Wagener and Prof. Eric Odada.

5. The representatives from the GEF Secretariat and the Implementing Agencies who attended the meeting were; Dr. Colin Rees; Dr. Allan Miller, Dr. Herbert Acquay and Dr. Jarle Harstad (GEF Secretariat); Dr. Eduardo Fuentes (UNDP); Dr. Lars Vidaeus and Rohit Khanna (World Bank); Ahmed Djoghlaf and Kristine Elliot (UNEP); Dr. Mark Griffith and Ms. Anne-Marie Verbeken (STAP Secretariat).

6. The Chairman of SBSTA (Climate Change) Dr. Harald Dovland and Mr. Ndegwa Ndiang'ui of the UNCCD Secretariat attended the meeting.

7. In addition, a number of task managers from the GEF Secretariat and the Implementing Agencies participated in selected segments of the meeting, particularly the working group sessions. Apologies were made for the Assistant CEO who had intended to participate in the meeting, but at the last moment had to be on mission.

Agenda Item 3: Report by the GEF Secretariat, Implementing Agencies and Subsidiary Bodies of the Conventions on Issues Relevant to STAP

8. The representatives of the GEF Secretariat drew the meeting's attention to a number of decisions made by the GEF Council at its last meeting in November 2000. Specific reference was made to the increase in PDF grants for multi-country projects to a maximum of US$700,000; measures for streamlining the GEF process; and the strengthening of relations with co-operating agencies particularly in the areas of persistent organic pollutants (POPS) and biosafety. In addition, the meeting was brought up-to-date on a number of issues including preparations for the Third GEF Replenishment; the resource constraints presently being faced by the GEF and the need for the GEF Secretariat to work more closely with the Implementing Agencies with respect to resource allocation and the progress made at the COP6/UNFCCC.

With respect to the latter, specific reference was made to two proposals for new funding areas at the COP6/UNFCCC, namely, transfer of technology and adaptation.

9. In response to the presentation by the representative of the GEF Secretariat, the Panel sought to clarify the type of relationship which should be developed between STAP and the institutions under the expanded opportunity strategy. As a consequence of that discussion, the Panel agreed that at its next meeting invitations be sent to FAO, UNIDO and the Regional Development Banks to participate in the STAP Meeting.

10. The representative of the World Bank alluded to the financial constraints being presently faced by the GEF. As a consequence, the representative explained that the Bank's Work Programme had to be changed to accommodate the new situation. He explained that there was an excess demand for GEF resources. This could be attributed to the mainstreaming of global environment into the Bank's regular activities and the fact that as the Bank's resources become more constrained, countries tend to look to the GEF for resources. In the current situation, the representative from the World Bank raised the issue of how to effectively use the existing resources. He suggested that this could be best achieved by thinking strategically and strengthening eligibility. In this regard, it was suggested that STAP has a role to play in such a process as a partner. In addition, the meeting was also informed of the progress achieved thus far in the preparation of the Bank's Environmental Strategy.

11. The representative from UNDP brought the meeting up-to-date on the restructuring process currently in progress. The decentralization of operations to the field worldwide was highlighted.

12. The Executive Co-ordinator of UNEP/GEF informed the meeting of a number of UNEP activities. In this regard, the meeting was informed that at the Council Meeting held in November 2000, UNEP submitted its largest work programme to the GEF, totally about US$73m, targeting over 140 countries and covering the areas of biosafety and climate change assessments (i.e. IPCC Regional Assessments and Solar Assessment). In addition, reference was made to UNEP Governing Council (GC21) meeting held in February 2001 and the decisions which were relevant to the GEF. Reference was also made to the Open Ended Working Group on Environmental Governance and its Work Programme. The meeting was informed that the first meeting of the Working Group will be held on April 18, 2001 with the hope of the committee concluding its work by December 2001.

13. The role of STAP, particularly the involvement of Dr. Stephen Karekezi in the "Dialogue in the Field" during UNEP Governing Council was acknowledged.

14. The meeting was also informed of the process for the reconstitution of STAP III. The meeting was informed that the process will commence with an organizational session on March 9, 2001 and conclude in January/February 2002, with the outcome being submitted to the GEF Council in May 2002. STAP members were invited to submit to the Chair of the Search Committee names of possible candidates to be considered by the Search Committee.

15. The Executive Co-ordinator of UNEP also highlighted that the UN Rules and Procedures for the convening of meetings also applied to STAP. A copy of those rules were provided by the Secretary of STAP to the Chairman. At the meeting held with STAP Members on 6 March, 2001 the Executive Co-ordinator of UNEP/GEF informed the participants that in future all STAP Workshops to be convened by STAP will be held in accordance with the UN Rules and Regulations.

16. The Chairman of SBSTA gave an overview of the work of SBSTA. He explained that much of the work of SBSTA is currently focused on the implementation of the Buenos Aires Plan of Action. In this regard, specific reference was made to the rule for Trading and Joint Implementation for the CDM; compliance; land use, land use change and forestry (LULUCF); technical training and capacity building. Reference was also made to the consultative process which has been undertaken to design a framework for improving technology transfer (including adaptation).

17. The Chairman of SBSTA also gave an update of the negotiations at COP6/UNFCCC. The need for closer co-operation between the CBC and UNFCCC was emphasised by the SBSTA Chair. Reference was also made to agenda item at the Sixth Session of SBSTTA/CBD on the issue of Biological Diversity and Climate Change, including co-operation with UNFCCC. He also indicated that this issue will also be considered at the next meeting of SBSTA/UNFCCC.

18. In reference to the Third Assessment Report of the IPCC, the Chairman of SBSTA indicated that, based on available information and data, the level of uncertainty with respect to climate change has been reduced.

19. The representative from the Convention to Combat Desertification in his statement complimented STAP for the substantive contribution it has made within the GEF to land degradation interlinkages. This has led to clearer understanding of land degradation issues within the GEF and better project focus within GEF with respect to land degradation. He indicated that the COP recognises the support the GEF has given to land degradation issues and the CCD Secretariat has encouraged parties to support the work of the GEF, particularly as it prepares for the Third Replenishment.

20. Notwithstanding the above comments, the representation from the CCD Secretariat indicated that there was a need for a re-orientation of the GEF and Implementing Agencies with respect to land degradation. To ensure more predictability with respect to financing the objects of the Convention, the representative indicated that the GEF should become the financial mechanism for the Convention.

Agenda Item 4: Report of the STAP Chairman, other Panel Members and the STAP Secretariat on Intersessional Activities

21. The STAP Chairman reported on his participation in the GEF Council Meeting of November 1-3, 2001. He reported that overall the response from the GEF Council on STAP's activities was positive. The Chairman highlighted the decisions and/or issues highlighted in the Joint Summary of the Chairs which have implications for STAP work. These were summarised as follows:

    (i) The Council supported the recommendation of the STAP Chair that the GEF policy on public participation should be interpreted as calling for the involvement of the scientific and technical community in stakeholder participation concerning GEF activities;

    (ii) The Council agreed that there is a need to seek ways to involve more developing country experts in the work of STAP, and particularly to increase the participation of developing country experts on the STAP roster in project reviews;

    (iii) The Council agreed that a GEF orientation should be provided to roster experts, especially those who have been newly added to the roster or who have not prepared a previous STAP review.

22. With respect to (iii) the Panel concluded that to carry out this decision in an effective and efficient manner, resources over and above STAP regular budget will be necessary. The STAP Secretariat was mandated to seek guidance on this issue from the GEF Finance and Administration Team and report back to the Panel.

23. Dr. Nishioka reported on his participation in the COP6/UNFCCC held in November 2000; A number of issues relevant to the GEF were highlighted. These included additional guidance on enabling activities, capacity building, technology transfer and adaptation. He indicated that adaptation emerged as a major issue of discussion and with the prospect of eligibility being extended to other climate related global issues like soil degradation and forest management, this implies that adaptation could emerge as a core subject within which broader ecosystem and soil degradation issues could be addressed. Guidance is urgently needed from a scientific and technical view point on this issue. In this regard, it was felt that STAP can contribute to the clarification of the scientific and technical issues underpinning the debate.

24. The meeting was also informed of the proposal for the establishment of intergovernmental consultative group of technical and scientific experts on Technology Transfer under the SBSTA. This aims to facilitate the exchange and review of information by creating a clearing house and regional technology information centres and to advise SBSTA on further actions to be taken focusing on ways and means to address the barrier for technology transfer.

25. Dr. Setijati Sastrapradja reported on her participation in the First Meeting of the Intergovernmental Committee for the Protocol on Biosafety held in December 2000. She informed the main issues discussed, included, but not limited, to information sharing (Art 19, art 20), capacity building (article 22, art 20), capacity building (article 22, art. 28), decision-making procedure (art. 10), handling, transport, packaging and identification (art. 18), and compliance (art. 34). To enable in depth discussion on these matters, two sessional working groups were established. Working Group I considered information sharing and handling, transport, packaging and identification, while Working Group II dealt with capacity building, decision-making procedures, and compliance.

26. In terms of follow-up issues of relevance to the STAP work, the recommendation was made that STAP should play a more critical role in the operationalisation of the Biosafety Protocol. On issue of capacity building, the Panel felt that within the context of the Capacity Development Initiative (CDI) adequate resources should be allocated for capacity building for the expedition of the Cartagena Protocol on Biosafety.

27. In her report on the Dryland Degradation Assessment (LADA) process; Prof. Paola Rossi highlighted its importance in providing basic standardised information and methodological tools for land degradation assessments in drylands at national, regional and global levels. The Panel adopted Prof. Paola Rossi recommendation that STAP should continue to participate in follow-up activities of Land Degradation Assessment (LADA). Prof. Rossi was selected as the STAP representative on this issue. In addition, Prof. Paola Rossi also updated the Panel on her participation in the COP4/CCD held in December 2000. Specific reference was made to her participation in a Working Group on Integrated Resource Management convened by the GEF Secretariat. Issues addressed at that meeting included the Land and Water Initiative for Africa and the preparation of operational guideline for the development of land degradation projects.

28. A report was also presented on Prof. Anderson's participation in the Second Annual Renewable Energy Forum convened in December 2000. The Workshop focused on the deployment of selected renewable energy technologies in the EU; consideration of the prospects for renewable energy technologies, especially wind energy and incentive mechanisms for encouraging investment in renewables.

29. The main recommendation made is that the GEF should continue its efforts to define the ideal policy for renewable energy development and use. In this regard, a STAP workshop on this subject would be desirable, with renewable energy policies being the principal focus. Another possibility for consideration is for the GEF to support country policy studies for renewable energy as part of its project operations (if it does not do so already). Such studies are generally a small component of project cost, but can be very influential, and would complement project operations very well.

30. Prof. Odada reported on his participation in the First Biennial International Waters Conference held in October 2000. He reported that the strong point of the meeting was the bringing together of the task managers involved in the implementation of international waters projects. It was however felt that this resource was not adequately utilized at the meeting, as little discussion focused on their experiences, lessons learnt and best practices. In addition, no reference was made to the new paradigm shift in the GEF integrated land and water management. The representative lamented the fact that the request made by STAP for a slot to address the role of science and technology in international water project was not granted by the workshop organisers.

31. The meeting was also informed of the UNDP Awareness Raising Workshop for Indian Scientists to be held from April 23-28, 2001. The meeting was informed that a specific request has been for Prof. Paola Rossi to participate in the Workshop. In addition, as a follow-up to the Council decision concerning the orientation of STAP Roster experts, the Panel agreed that a special session should be convened with Indian STAP Roster Experts attending the meeting on the review criteria for the review of GEF projects. This should be used as a pilot to give insights into a larger orientation programme for the STAP Roster Experts. The Executive Co-ordinator of UNEP/GEF indicated that the cost associated with the STAP activities shall be borne by UNDP.

Agenda Item 5: Monitoring and Evaluation Work Programme

32. The meeting was updated on the work of the OPS Team and the impact studies undertaken by the Monitoring and Evaluation Unit in collaboration with the Implementing Agencies and STAP. Specific presentations were made on the preliminary findings of the impact studies on climate change, biodiversity and international waters. Reference was also made to the GEF Land Degradation Linkage Study. Further discussion of the draft reports of the impact studies took place in the Working Groups with the view of integrating STAP's comments, particularly those which emerged from the Selective Reviews[1] undertaken by STAP in support of the GEF Programme Studies.

33. As an integral part of the meeting a closed session was convened by the OPS2 Team with Panel Members. This was a follow-up to a series of meetings[2] held with STAP members and the STAP Secretariat prior to the STAP Meeting.

Agenda Item 6: GEF Corporate Business Plan and STAP Work Programme for FY2002

34. The Team Leader for Finance and Administration briefed the meeting on the preparation for the Corporate Business Plan and the Third GEF Replenishment. With respect to the latter, specific reference was made to the Resource Programming Paper under preparation. In this regard, STAP was requested to make an input with respect to how it sees its role in the future and the resource implications.

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1 STAP undertook two selective reviews as well as undertaking a number of desk reviews. The selective reviews undertaken were "Philippines: Conservation on Priority Protected Areas" and "China: Efficient Industrial Boilers Project"

2 A teleconference between the OPS2 Team, STAP Members and the STAP Secretariat was held on January 28, 2001. This was followed by a meeting with the STAP Secretariat staff on February 26, 2001 as well as bilateral meetings with individual STAP Members.

35. The Team Leaders of Climate Change, Land and Water Resources and Biodiversity outlined the issues arising out of their respective portfolio operations and the specific demands which should be included into STAP Work Programme for FY02.

36. Following is a summary of the main issues highlighted by the Team Leaders which could form the basis of the finalization of the STAP Work Programme for FY02.

A. Climate Change

(i) Review of OP#5: Removal of Barriers to Energy Efficiency

- **Review of Demand Side Management/Energy Service Companies (DSM/ESCO) experience**: Currently, generic demand-side management (DSM) programmes account for two-thirds of the portfolio and an additional 14 projects incorporate some approach based on the use of energy service companies (ESCOs) as a delivery mechanism. The meeting was informed that an ESCO review is currently being undertaken under the auspices of the M&E Unit. STAP will be required to review that study with the view of suggesting a way forward.

- **Omission of categories and types of projects**: Generally, the OP#5 project portfolio is imbalanced in the type of projects financed. Projects dealing with passive heating and cooling/energy efficient buildings; manufacture of energy efficient equipment other than lighting such as boilers, refrigerators; micro-turbines/combined heat and power are not adequately represented in the OP#5 activities.

(ii) Opportunity for Promoting Renewable Energy (OP#6)

This OP has promoted a wide variety of renewable energy technologies (e.g. low temperature solar thermal heating; biomass; geothermal; wind, hydro and photovoltaic power for rural electricity supply; and grid-connected wind farms and photovoltaic). Rural photovoltaic (PV) projects continue to dominate the portfolio with about fifty per cent of all PV projects focusing on off-grid application.

The scientific and technical issues arising out of the analysis of the portfolio are:

- **The omission of categories and types of projects**, namely village-scale systems, agricultural applications, storage systems, grid-connected wind power etc.

  Consideration of other categories of energy systems becomes necessary when one considers that key barriers for future growth of PV use seem not to be so much the barriers addressed by OP#6, but the fact that the vast majority of all rural households which are currently not connected to the grid are simply too poor to afford costs associated with such technologies. The relative high costs and risks of rural PV barriers removal intervention demand a more thorough comparison with alternative programming options.

- **Power Sector Reform**: The need for the establishment of a mechanism(s) to ensure the operationalization of power sector reform issues within the current GEF climate change portfolio was emphasised.

(iii) Re-examination of the Basis on Which OP#7 was Designed: Reducing the Long-Run Costs of Low GHG-Emitting Technologies (OP#7)

Projects in OP#7 continue to lag behind Corporate Business Plan (CBP) projects. The major issues identified were:

- **The omission of categories and types of projects**: Several technologies identified as promising in the OP remain unaddressed, including advanced biomass to liquid fuels, large-scale grid connected wind power, fuel cells for distributed combined heat and power (CHP) applications, and advanced fossil-fuel gasification and power technologies.

  It was highlighted that with the help of STAP, the first major steps towards a programmatic approach to technology commercialization for fuel cells and solar thermal plants have been achieved.

- **Reconsideration of Wind Technologies**: The increasing win-win potential for distributed power wind application and excellent potential to promote their widespread use in the context of energy sector restructuring and re-regulation warrants a review of wind-power as an OP#7 technology.

- **Programmatic Approach to Technology Commercialization**: Consideration should be given to employing a programmatic approach to technologies such as fuel cells, solar thermal plants etc.

- **Integrated Gasification of Clean Coal (IGCC**): The major issue raised related to this issue is whether GEF resources should be directed to advance clean coal technologies.

Arising out of this analysis the call was made for a re-examination of assumption on which this OP was designed, namely, technological adoption according to the learning curve. The re-examination is necessary in order to analyse the extent to which one can base the commercialization of technology on the methodology of the learning curve.

(iv) Sustainable Transportation (OP#11)

The need for projects dealing with modal shift of transportation under this OP was highlighted. The need for STAP's input in assisting with operationalization of this OP was also highlighted. Other areas highlighted were:

- **The Need for a Balanced Portfolio**: Additional technologies, beside fuel cells should evolve within this OP;

- **Linkage of Transport Planning to Air Quality**: This is an area that warrants more consideration in the evolving portfolio on transportation.

(v) **Vulnerability and Adaptation:** This was identified as a priority area. In this regard, STAP contribution and further follow-up activities on this issues were applauded by the Team Leader for Climate Change.

(vi) **Social Issues in Climate Projects:** The social dimensions of climate change has been a major omission in many GEF climate change projects.

B. **Land and Water Resources**

The general theme highlighted by the Land and Water Resources Team was integration. It was emphasised that this theme will guide the work programme of the Land and Water Resources Team.

Areas highlighted for consideration by STAP are summarised as follows:

(i) **Review of the benefit and applicability of the Transboundary Diagnostic Analysis/Strategic Action Plans**: In this context the need for a conceptual framework which seeks to achieve integration and timely results on the ground was highlighted. The need to balance the planning process with results on the ground was highlighted as a central concern in designing land and water interventions. In addition, the issues of how to pay for TDA/SAP results and how to facilitate their implementation were raised as areas needing further consideration.

(ii) **Handbook on Integrated Ecosystem Management**: The cross-cutting area of Integrated Ecosystem Management (OP#12) which is aimed at catalysing widespread adoption of comprehensive ecosystem management interventions that integrates ecological, economic and social goals to achieve multiple local and global benefits was highlighted. In this regard, specific reference was made to the preparation of a *"Handbook on Integrated Ecosystem Management"*, and the implementation of the *Land and Water Initiative for Africa and the Action Plan on Land Degradation.* The initial work being done by STAP on this issue was recognised. However, the need for STAP to conclude its input on this issue before the end of FY02 was emphasised.

(iii) **Case Studies on Community-Based Integrated Land and Water Management**: The results of the STAP Planning Meeting held in January on Integrated Land and Water Management; the upcoming Technical Workshop and the Publication of a "*Sourcebook on Integrated Land and Water Management*" were acknowledged as critical inputs to the Work Programme of the Land and Water Resources Team.

(iv) **Technical Guidelines for Enabling Activities on Persistent Organic Pollutants (POPs)**: The meeting was informed that existing GEF resources will be used for the preparation of enabling activities in POPs. Notwithstanding this, guidelines for undertaking enabling activities were necessary. In addition, it was highlighted that guidance was also required on innovative technologies to address issues such as disposal, alternatives and remediation as well as issues relating to bi-products.

The meeting was informed that as a consequence of the complexity of the subject (POPs) STAP will be required to examine each proposal submitted to the GEF for funding.

(v) **Land and Water Initiative for Africa**: In light of the work undertaken by STAP on the East African Lakes, it was highlighted that consideration should be given to integrating the conclusions of the STAP Workshop as an integral part of the implementation of the Land and Water Initiative for Africa. In this regard, STAP was requested to consider a modality which could be adopted to integrate its work on the East African Lakes as part of the Land and Water Initiative for Africa.

C. **Biodiversity**

A number of issues were highlighted by the Team Leader of Biodiversity. These are summarised below as follows:

(i) **Sustainable use and poverty alleviation**: Linking sustainable use with biodiversity conservation may include sustainable livelihoods and activities that support poverty alleviation. Special attention would be given to vulnerable groups such as indigenous and local communities and women's groups.

(ii) **Ecosystem management**: COP guidance has been provided, however there is a need for further elaboration in terms of defining its scope and application in projects. In this regard reference was also made to the operationalisation of the OP#13.

(iii) **Expanding coverage**: Protected areas, while corresponding to national priorities, still comprise a relatively small proportion of biodiversity-rich sites within countries and regions, and there is a need to expand coverage to include the wider productive landscape.

(iv) **Conservation priorities**: There are globally significant sites identified by key conventions and scientific programmes which may not be covered by the current portfolio of GEF-financed biodivesity projects. In addition, there are regions (e.g., Eastern Europe, Middle East, Africa) and specific biodiversity issues (e.g., biosafety, alien and invasive species, benefit sharing, incentive measures) that may need further development and support.

(v) **Root causes of biodiversity loss**: More support may be needed to help countries and key stakeholders in-country address the fundamental or root causes of biodiversity loss, including, for example, sector reforms in forestry, coastal management and fisheries, mountains, and in issues related to land degradation and desertification.

Agenda Item 7: The STAP Roster of Experts

37. The working groups were given the task of selecting the new roster expert with expertise in those areas where the roster needs to be strengthened. Some STAP Members felt that prior to adding the new CVs, the roster should be reviewed and revised and experts who are not responding to communications by STAP should be removed, as well as experts who no longer meet the criteria of an evolving GEF. It was agreed that the roster will be further pruned and reduced to a more active roster with addition of those experts who meet all the roster criteria and taking into consideration the need for a geographically balanced roster.

38. The issue of the proposed GEF orientation for new and never-used roster experts was discussed in the context of the analysis of the use of the roster as contained in the Annual Review of the roster. It was felt that providing orientation to the roster experts is an investment that must be linked to considerable debate on enhancing the review process to make it more effective. A revised review process was suggested in which the reviewers would receive feedback after their two day review of project proposal and be given the opportunity to further evaluate the incorporation of their comments and suggestions into further phases of project appraisal and implementation. The Panel agreed that Dr. Michel Colombier should prepare a paper on the roster and the roster review process.

Agenda Item 8: Working Group Sessions

39. Three Working Groups Sessions were convened, namely, Climate Change, Land and Water Resources and Biodiversity. The Working Groups provided the opportunity for STAP Members to discuss in more detail the issues identified by the GEF Team Leader under Agenda Item 8; assign priorities and to finalise the activities to be addressed by STAP in FY02. This also provided the basis for the consideration of the STAP budget for FY02.

40. In addition, the Ad Hoc Working Groups reviewed the new nominations for inclusion into the STAP Roster of Experts with the view of making specific recommendations to the Panel.

41. The major decisions which were adopted by the Panel based on the presentation of the Adhoc Working Group are summarised as follows:

A. Climate Change

(i) **Integrated Gasification of Clean Coal (IGCC):** Based on the STAP recommendation[3] that support for IGCC under OP7 should be reconsidered and recognising that since IGCC has been classified as an eligible technology for GEF funding, a reformulated proposal for a zero emissions intervention was analysed. This analysis consisted of a number of technical presentations by invited experts as well as representatives from the World Bank, the Implementing Agency for the proposed project.

After careful consideration of the proposal, the Panel concluded that (i) the reformulated project document went some way toward meeting STAP's concerns, and that the core gasification technology and the demonstration of the hydrogen production elements were of significant interest; however (ii) there is a need for the preparation of a strategy paper demonstrating detailed path to zero emission for the coal industry and that current/future projects be assessed within that context. In addition the strategy should lay out the comparative advantage of GEF involvement in IGCC technology development in light of the very substantial investments that the coal industry has made and plans to make in further development of coal gasification technologies.

(ii) **Sustainable Transportation OP#11 (non-technology options):** The need for the GEF to support non-high technology transport options was emphasised. Apart from a few cycle paths/walkways projects, limited progress has been made in this area. The Panel felt that discussions could be initiated on how links with mainstream Bank's operations in urban development and transport could be achieved. It was also felt that such a dialogue could also be initiated with HABITAT with respect to their urban development and transport focus.

The Panel accepted the Ad hoc Working Group's recommendation that the issue should be revisited and considered in the context of the STAP Brainstorming on Sustainable Transport to be held in early 2002.

(iii) **Power Sector Reform**: The Panel lamented that the follow-up to the STAP Expert Group Workshop on Power Sector Reform was not as encouraging as was anticipated given the importance of this issue in today's power sector debate.

The GEF Secretariat intends to follow up on the recommendations of the Workshop and will inform and involve STAP members in its efforts to operationalize the guidance received from STAP.

Since the World Bank was perceived to be the most influential of the IAs in power sector reform, STAP concluded that there is need for a high level intervention to ensure that ongoing power sector initiatives take cognizance of the recommendations of the STAP Workshop on Power Sector Reform. In this context, the importance of a programmatic approach was emphasised.

(iv) **Solar thermal, PV Grid Connected Stationary Application of Fuel Cells – Reassessment of Underlying Rationale for OP#7**: The Panel noted the growing interest in PV Grid-Connected Options (attractive for countries where electricity peak load coincides with solar peak insolation) and stationary application of fuel cells. Both issues are intimately linked to broader interest in distributed generation.

It was agreed that GEF Secretariat with STAP assistance will undertake a number of task force meetings/telephone conferences to readdress the overreaching strategy issues of the GEF climate

3 See the Report of the Seventh Meeting of STAP II, September 18-22, 2001, Washington, D.C. and the statement of Prof. Madhav Gadgil, STAP Chairman, GEF Council Meeting, Washington, D.C., November 1, 2000.

portfolio. Special attention will be paid to OP#7 which presents some of the most strategic challenges in the climate portfolio.

(v) **Social Issues in Climate Change**: A range of critical social issues that arise out of the climate portfolio were considered by the Working Group. As a consequence, it was agreed that an analysis of the social dimension of the climate portfolio be undertaken. The GEF Secretariat agreed to undertake this responsibility. The results of that analysis will form an important input into the STAP Brainstorming on Social Issues in Climate Change which the Panel agreed was necessary to address this issue.

Drs. Christine Padoch and Michel Colombier were assigned the responsibility to undertaken further work on this issue on behalf of STAP in preparation for the brainstorming session.

B. Land and Water Resources

(i) **Selective Review of a selection of TDA/SAP**: The panel agreed to undertake a selective review of a sample of international waters projects to review the benefit and applicability of TDAs/SAPs. In this context the need for a planning session with the Land and Water Team was considered as being necessary.

Profs. Angela Wagener, Eric Odada and Paola Rossi were identified as the lead persons for STAP on this issue. Based upon the timing of the inputs required by the Land and Water Resources Team, the selective review was scheduled for July 2001 and the planning session with the Land and Water Team in May 2001.

(ii) **Persistant Organic Pollutants (POPs)**: In response to the GEF Secretariat request for guidelines for undertaking enabling activities for POPs as well as innovative technologies and issues relating to by-products, the Panel concluded that there was a need to augment the experise of STAP members by inviting two experts, one on POPs technologies and the other on agriculture and POPs to work with STAP members on this issue.

It was further agreed that these two invited experts should be invited to work with Profs A Wagener and E. Odada in the preparation of a STAP Technical Workshop with a focus on stockpiles and innovative technologies.

(iii) **Integrated Ecosystem Management**: A number of specific suggestions were made on the draft Conceptual Framework for the preparation of Handbook of Integrated Ecosystem Management, particularly as it relates to biodiversity, capturing the GEF experiences and its linkage to global benefits and adaptive management principles. The Panel made the following decisions with respect to STAP's work on this issue.

(a) The Land and Water Resources and biodiversity experts on STAP should work more closely in the preparation of the Handbook. The Task Team for the preparation of the Handbook was extended to include the STAP biodiversity experts.

(b) The Task team should identify a small group of experts to work with them in the preparation of the Handbook.

(c) Once the draft handbook is prepared, this should be subjected to a critical and comprehensive review to ensure that the views of the wider scientific and technical community are reflected in the Handbook. To this end the Panel agreed to the convening of a Technical Review Workshop which would focus specifically on the

content of the Handbook as well as the integration of experiences derived from on going GEF projects.

(iv) **Integration of East African Lakes as an Integral Part of the Land and Water Initiative for Africa**: The STAP Workshop on the Review of the East African Lakes[4] provided an opportunity for the riparian countries of the East African lakes to meet and exchange views and experiences on approaches on the management of the lakes. It also provided an opportunity for an interface between local and international scientists and the donor community. Since then considerable interests have been expressed by the donor community in following-up on recommendations made by STAP. As a consequence, the Land and Water Initiative for Africa has integrated the management of the East African Lakes as a major component of the Land and Water Initiative.

Consistent with its original recommendation that further consideration should be given to the ideas expressed by stakeholder[5] as contained in the STAP report and in response to the Land and Water Resources Team, the Panel agreed to convene a Working Session on the Management of the East African Lakes. The purpose of the session will be to interface the representatives from Land and Water Team, the Land and Water Initiative for Africa with representative from the local and international scientific and technical community and the donor community to consider how the recommendations made by STAP could be advanced in a comprehensive and systematic manner. The session will also explore how a long-term programme can be developed for the management of the East African Lakes. Profs. A. Wagener and E. Odada were assigned the responsibility on behalf of STAP for this issue.

C. Biodiversity

The Ad-hoc Working Group on Biodiversity identified a number of issues which required further analysis. These included the issue of green marketing and its relationship with sustainable livelihoods and monitoring and evaluation indicators for measuring the impact of biodiversity projects.

In addition, the Working Group emphasised the need for biodiversity issues to be intimately integrated into any consideration of integrated land and water management and integrated ecosystem management. In this regard, the Panel agreed that the STAP Biodiversity and Land and Water Resources Team should work closely in these issues.

Following are the specific activities which will be addressed during FY02:

(i) **Selective Review**: The GEF project on the Meso-America Biological Corridor was selected as a target for a selective review. In the analysis of this project, STAP is expected to contribute to the following:

(a) Capacity Development (institutional and systematic levels);
(b) Targeted Research: stakeholder behaviour analysis;
(c) Alternative livelihood including green marketing;
(d) Monitoring and Evaluation indicators development to measure progress;
(e) Integration of science in sustainable utilization of Biodiversity;
(f) Integrating biodiversity into the GEF Integrated Land and Water work.

4 see the Report of the STAP Workshop on Review of the East African Lakes, Mangochi, Malawi,
5 op cit

The Panel further agreed that the results of the Selective Review should serve as an input to the STAP Workshop on Agro-Ecosystems in Latin America. For this activity, the Chair and Vice-Chair of STAP were assigned the principle responsibility.

(ii) **Biosafety**: The Panel adopted the recommendation made by the Ad Hoc Working Group concerning the need for STAP to assist the GEF Secretariat with the operationalization of Biosafety Protocol. In this regard, the Panel agreed that the convening of a Brainstorming Session on Biosafety would be an adequate first step in achieving this objective.

(iii) Operationalisation of OP#12 and 13: The Panel agreed that focus should be placed by STAP on the operationalisation of OP#12 and 13 during FY2002.

Agenda Item 9: Report on STAP Brainstorming on Adaptation and Plans for the STAP Experts Group Workshop on Adaptation

42. A report of the STAP Brainstorming on Vulnerability and Adaptation which was convened immediately before the STAP meeting on March 5-6, 2001 was presented by the STAP Team Leader for this activity. The Brainstorming session had as its major objectives the analysis of a range of critical issues relevant to adaptation, namely, the scope of adaptation measures; methodologies; evaluation criteria; scientific and technical integrity and the areas of focus which should be subjected to further analysis as a means of providing strategic guidance to the GEF on this issue.

43. A major conclusion of the Brainstorming session is that setting priority for adaptation measures is not an easy task because of a number of factors including: (i) the broad spectrum of adaptation measures ranging from large-scale investment of infrastructure such as dam and irrigation to species changes in agricultural production, to coastal zone management and epidemic prevention. (ii) methodological weaknesses in vulnerability assessment in spite of continuing efforts by the scientific community and (iii) difficulties in designing effective adaptation measures and their economic evaluation.

44. Notwithstanding these constraints a number of critical issues were identified which should be addressed in any follow-up work on vulnerability and adaptation. These included but are not limited to an understanding of the nature, frequency and direction of climate variability and climate change (i.e. long term changes, human induced changes, extreme events etc); methodological tools and technologies for vulnerability assessment and adaptation responses; the linkage between adaptation response and socio-economic issues including poverty; economic evaluation of resources and the integration of adaptation into economic and social planning processes.

45. With respect to the timing of convening of STAP follow-up activity, namely, the STAP Expert Group Workshop on Vulnerability and Adaptation, the Panel decided that this should be circumscribed by the negotiation process. Taking into consideration the dates for the Resumed Session of the COP6/UNFCCC, the dates for the STAP Expert Group Workshop on Vulnerability and Adaptation were set for September 12 - 14, 2001.

46. The Island and Small Island Institute, University of Malta offered to host the STAP Expert Group Workshop on vulnerability and Adaptation. The Panel accepted the offer made by the University of Malta and mandated the STAP Secretariat to liaise with the University of Malta in making the necessary arrangements for the meeting.

Agenda Item 10: Integrated Land and Water Management and Integrated Ecosystem Management

47. The STAP Team Leaders for this activity gave an update of the progress made to date on STAP efforts to advice the Land and Water Resources Team on Integrated Land and Water Management and Integrated Ecosystem Management. Two background papers, one entitled "*Conceptual Framework for Case Studies on Integrated Land and Water Management*" (UNEP/GEF/STAP/1/8/10/Add.1) and *"Conceptual Framework for a Handbook on Integrated Ecosystem Management"* (UNEP/GEF/STAP II/8/10/Add.2) were presented for the Panel's consideration. The former outlined the guidelines for the preparation of the case studies on community-based integrated Land and Water Management, the structure and content of the proposed *Sourcebook on Integrated Land and Water Management* and the agenda for the Technical Meeting on the Review of the Case Studies. The latter presented a preliminary overview of the structure and content of the proposed *Handbook on Integrated Ecosystem Management*.

48. The Panel agreed on the following:

(i) That the Conceptual Framework for the preparation as of the case studies presented in UNEP/GEF/STAP II/8/10/Add.1 (see Annex II) should be used as the basis for the preparation of the case studies on community-based integrated land and water management.

(ii) The structure and content of the Sourcebook on Integrated Land and Water Management (see Annex III).

(iii) That the Technical Workshop on Integrated Land and Water Management should take place as proposed by the STAP Planning Meeting on Integrated Land and Water Management held in January at the University of Natal, Pietermaritzburg, South Africa from April 21-26, 2001.

(iv) That the comments made on the Conceptual Framework on Integrated Ecosystem Management be incorporated and used as a basis for further discussion with the wider scientific and technical community. In addition, the Team Leader should identify a small group of experts to further develop the Handbook.

Agenda Item 11: Expert Group Workshop on Managing Agro-ecosystem in a Globalising World

49. The Team Leaders for this activity, Drs. Christine Padoch and S. Sastrapradja gave an overview of the rationale for this activity in support of the operationalization of OP#14 on Agrobiodiversity.

50. Agroecosystems in Southeast Asia are undergoing rapid and profound change. Many different types of agroecosystems are being affected, ranging from shifting cultivation systems to highly-intensive cropping. Throughout the region agricultural biodiversity is being lost, the diversity of types of agroecosystems is being reduced and the systems are being simplified. While dynamism has long characterized SE Asian resource management, present patterns of change are unprecedented in their pace and region-wide scope.

51. The causes and consequences of these changes are many. Globalization of markets, wide diffusion of technical information favouring simplified production models, similar agricultural and conservation policies concerning smallholder production, are among the factors that have led to this region-wide phenomenon. Despite the borders and cultural differences that fragment the region, these similar trends are everywhere leading to erosion of genetic richness in

important crops including rice, as well as loss of many other crops and varieties, to simplification of diverse landscapes, increased threats to food security and access of farming households to medicines, construction materials, and other daily necessities, as well as to loss of local ecological and agricultural knowledge and cultural diversity.

52. It was agreed that while many members of Southeast Asia's scientific community are aware of the transformations that are occurring, few policy-makers in the region appreciate their importance. There is as yet no broader regional recognition of the scope of these phenomena, nor a regional effort to monitor and manage the change. In addition, the insights gained from an analysis of these trends would be invaluable in assisting the GEF in operationalising OP#14 on Biodiversity of Importance to Agriculture.

53. The aims and objectives of the Workshop were agreed as follows:

(i) To assess the major changes occurring in agroecosystems and associated ecosystems in Southeast Asia, their pace, and scope as well as the principal forces driving these changes;

(ii) To assess the implications of these changes for biodiversity, including agrobiodiversity, at various levels of analysis, as well as the implications for land degradation, local agricultural knowledge and practice and the well-being of rural populations;

(iii) To document case studies from Southeast Asian countries of agroecosystems that conserve important biodiversity and that persist despite globalization pressures;

(iv) To explore the potential of scientific and technical information to enhance the productivity of these particularly important agroecosystems;

(v) To provide information to relevant GEF Operational Programmes;

(vi) To promote regional co-operation for agrobiodiversity and agroecosystem management;

(vii) To provide direction for further inquiry into comparable trends in other areas of the developing world.

54. In addition, the Panel agreed that the Workshop should be held at University of Malaysia, Kuching, Sarawak, Malaysia from June 18-21, 2001. The Executive Co-ordinator of UNEP/GEF indicated that the Workshop should be held in accordance with the UN Rules and Regulations regarding the convening of meetings outside the UN Headquarters of the Implementing Agencies.

Agenda Item 12: Capacity Development Initiative

The Chairman introduced a note he prepared on the Capacity Development Initiative. STAP members proposed continued interaction with the Third World Academy of Sciences (TWAS) and other global and regional networks to provide continued input into the initiative. STAP will consult with the GEF Secretariat and the IAs on the Chairman's proposal contained in his note.

Agenda Item 13: Planning for the GEF Assembly 2002

(i) **Priority Issues which STAP Should Address in GEF Phase III**: Based upon their experience in STAP and the GEF the Panel agreed to provide inputs to assist with the identification of priority issues which could be addressed by STAP in Phase III. It was also

agreed that those inputs should be transmitted to the Search Committee for STAP Reconstitution to help guide the selection process.

(ii) **Triennial Report to the GEF Assembly**: The Panel expressed agreement with the structure of the Report as outlined by the STAP Secretariat in UNEP/GEF/STAP II/8/13/Add.1. The Secretariat was mandated to co-ordinate this activity in close collaboration with the Panel.

(iii) **First STAP/GEF Science Congress on the Global Environment**: The Panel agreed to the convening of a Science Congress on the Global Environment to coincide with the end of the tenure of STAP II. The Chair reported that the CEO is supportive of this initiative and that it should be used as an opportunity to heighten the role of science and technology in the GEF.

To further develop this concept, the Secretariat was mandated to work closely with Profs. Dennis Anderson and Eric Odada to keep Panel Members updated on progress being made.

Agenda Item 14: Any Other Business

55. The following issue was discussed under this agenda item:

- **Ninth Meeting of STAP II**: It was agreed that the ninth Meeting of STAP be convened in Washington, D.C. from September 18-22, 2001.

Agenda Item 15: Adoption of the Report

56. The meeting considered the draft conclusions of the last meeting and entrusted the STAP Secretariat to incorporate the comments made.

Agenda Item 16: Closing of the Meeting

57. The meeting was closed at 5.00 p.m. on Friday, March 9, 2001.

Annex I

STAP Work Programme for FY2002

ACTIVITY	DATE	OUTPUT	TASK LEADER RESPONSIBLE
STAP MEETINGS/BRAINSTORMING SESSION			
Ninth Meeting of STAP – Washington, D.C. Tenth Meeting of STAP – TBD Joint Meeting of Outgoing and Incoming STAP - Nairobi	September, 2001 February 2002 June 2002	Report Report Report	Chairman/STAP Secretariat
MANAGEMENT INCLUDING UPDATING OF THE STAP ROSTER OF EXPERTS AND O UTREACH TO THE ROSTER EXPERTS ❖ Identification of gaps in the roster in consultation with the Implementing Agencies and the GEF Secretariat ❖ Technical inputs (updating of database to accommodate new requirements) ❖ Editing and Printing ❖ Distribution ❖ Maintain and further develop STAP website, including the Roster related services ❖ Management of the Roster of Experts including quality control ❖ Annual Review of the Use of STAP Roster Expert ❖ Publication and distribution of the STAP Roster newsletter and information package to STAP Roster of Experts	Ongoing	❖ Consolidate Roster of Experts (Version I and II) ❖ Establishment of Website Annual Review for submission to GEF Council Minimum of 3 Newsletters circulated to STAP Roster Experts	STAP Panel/STAP Secretariat
❖ Preparation of Discussion Paper on the Use of the Roster in the Review Process	March – May, 2001	Report	M. Colombier
SELECTIVE REVIEWS			
• Selective Review of SAPs/TDA (International Waters)	July, 2001	Advice to the Land and Water Team (LWT)	A. Wagener, E. Odada, P. Rossi
• Selective Review of the Meso-America Biological Corridor Project	November, 2001	Report	C. Padoch, M. Gadgil

STRATEGIC ADVICE ❖ Contribution to operationalizing GEF Operational Programmes/Policy Frameworks (a) Transport (b) Integrated Ecosystem Management (c) Persistent Organic Pollutants (POPs) (d) Technology Transfer across focal areas and private sector ❖ Review of GEF Operational Programmes • Biodiversity • Climate Change • International Waters • Integrated Land and Water Management and Integrated Ecosystem Management • Review of GEF projects • Operational Strategic Issues identified by GEF Council, the GEF Secretariat and Implementing Agencies ❖ Input into the Global International Waters Assessment ❖ Biosafety Capacity Development Initiative	Ongoing	Input into Drafts	STAP Panel
WORKSHOPS/ROUNDTABLES/BRAINSTORMING SESSIONS			
• Workshop on the Integration of the East African Lakes as integral part of the Land and Water Initiative for Africa	August, 2001	Report to the Land and Water Team	A. Wagener, E. Odada, P. Rossi
• Workshop on Vulnerability and Adaptation **(N.B: Brought over from FY2001 – Resources to be committed from FY2001 budget)**	September, 2001	Report	S. Nishioka
• Technical Workshop on the Handbook on Integrated Ecosystem Management	November, 2001	Handbook on IEM	E. Odada, P. Rossi, C. Padoch, S. Sastrapradja
• Workshop on Implementation of POPs Convention with specific reference to stock piles, innovative technologies, etc.	January, 2002	Report/Advice to the GEF	A. Wagener, Eric Odada in collaboration with two nominated experts: one on technologies and the other on agriculture and POPs
• Workshop on Agro-Ecosystems in Latin America	February, 2002	Report/Advice to the GEF	C. Padoch, M. Gadgil, P. Rossi
• Brainstorming on Social Issues in Climate Change	March, 2002	Report	C. Padoch, M. Colombier
• Brainstorming on Transport	March, 2002	Report	S. Karekezi, D. Anderson
• Brainstorming on Biosafety	March, 2002	Report	S. Sastrapadja, J. Sarukhan
• Science Congress	June, 2002	Report	D. Anderson, E. Odada, P. Rossi

PUBLICATIONS ❖ Case Studies on Community-Based Integrated Land and Water Management ❖ Handbook on Integrated Ecosystem Management ❖ Land Degradation Interlinkages ❖ Power Sector Reform ❖ Sustainable Forestry			STAP Panel/STAP Secretariat
MONITORING AND EVALUATION ❖ Input into the GEF Monitoring and Evaluation exercise ❖ Participation in Project Implementation Review **MOBILIZATION OF WIDER SCIENTIFIC COMMUNITY** ❖ Participation in GEF Country Dialogue Workshops ❖ Interaction with S&T Community (i.e. Third World Academy of Science, etc.) ❖ Science Congress	Ongoing As determined by the Steering Committee	Reviews and technical papers Presentation	C. Padoch/D. Anderson STAP Members/STAP Secretariat
PREPARATIONS FOR THE SECOND GEF ASSEMBLY ❖ Preparation of Triennial Report on STAP Activities and Broad Scientific and Technical Issues ❖ Publication of Brochures on STAP **RECONSTITUTION OF STAP**			STAP Members/STAP Secretariat STAP Secretariat
MEETING TO BE ATTENDED BY STAP CHAIR/ MEMBERS- ❖ 2 GEF Council Meeting (Chairman and Vice-Chair) ❖ 2 NGO Consultations ❖ Project Implementation Review **Climate Change** SBSTA - Climate Change Resumed UNFCCC/COP-6 UNFCCC/COP-7 **Biodiversity** SBSTTA 7 - Biodiversity **Land Degradation** CCD/COP5	Washington, D.C., October 2001 and May 2002 29 October – 9 July 16-27, 2001 November, 2001 12-16 November, 2001, Montreal 17-28 September, 2001, Bonn, Germany	Report	M. Gadgil M. Gadgil D. Anderson/C. Padoch S. Nishioka S. Sastrapradja P. Rossi

Annex II

CONCEPTUAL FRAMEWORK FOR CASE STUDIES ON INTEGRATED LAND AND WATER MANAGEMENT

Introduction

Recently the GEF established a Land and Water Resources (LWR) team. This marked a paradigm shift in the way the GEF has historically addressed issues relating to land and water. The Work Programme outlined by the LWR team for FY 2001 - 20021 has the overall objective of securing and maintaining the integrity of ecological systems, particularly land and water, through integrated ecosystem management.

As an input to the efforts of the GEF/LWR team, the Scientific and Technical Advisory Panel (STAP) of the GEF has been requested to assist with the identification and analysis of a number of case studies on integrated land and water management with a particular focus on Africa. The case studies should have as a focus the implementation of community-based approaches to integrated land and water management as well as the science underpinning them. The specific objectives of the case studies are to compile, synthesize, and disseminate good practices in community-based application of integrated land and water management, including traditional systems.

The compilation and analysis of these case studies are intended to support on-going efforts by the GEF, particularly the Africa Land and Water Initiative2 as well as other organizations in order to facilitate wider adoption of the integrated land and water management approaches.

The case studies will also contribute to a better understanding of different community-based management systems, including their origin, rationale for their adoption, major practitioners, management practices and their institutional framework (e.g decision-making processes) and the enabling environment needed to sustain these systems.

The Approach

To facilitate this exercise STAP will adopt a phased approach, namely:

(i) **Convening of a Planning Meeting of Experts to provide guidance on the overall case study review process.** The Planning Session of experts on Integrated Land and Water Management was convened at the Department of Agronomy, University of Bologna from January 21 - 24, 2001.

The specific aims and objectives of the Planning Session were to analyse a number of selected case studies on Integrated Land and Water Management; Preparation of guidelines for the compilation and presentation of the case studies and preparation for the Technical Workshop on the case studies. This took the form of a scoping exercise with emphasis on the scientific and technical underpinnings of the case studies, the methodologies employed and lessons learnt including consideration of the enabling environment which influenced the case studies.

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1 Status Report on the GEF Land and Water Resources Portfolio, GEF Secretariat, September 2000

2 The Africa Land and Water Initiative was adapted by the Heads of the GEF and the Implementing Agencies (IAS) in March 1999 and March 2000

(ii) **Preparation of case studies**: Following the analysis of a number of experiences on integrated land and water management, case studies have been selected for further analysis. The main criteria used for the selection of the case studies being human use situations. Figure 1 gives indications of the situations to be considered and the geographic location of the case studies. The case studies selected are representative of the range of situations found in Africa both from a human use and geographical perspective. This is necessary since the focus of the case study review in the first instance will be Africa. To guide the preparation of the case studies a number of questions have been formulated. These guidelines will be used as the basis for the preparation and analysis of the case studies. Experts preparing the case studies will be expected to follow these guidelines.

(iii) **Convening of a Technical Review Workshop and field study**. The case studies will be reviewed at a Technical Review Workshop and field study to take place in South Africa from April 21 - 24, 2000. (See Annex 1 for draft workshop programme). A principle objective of the Technical Review Workshop will be to provide guidance, based on the analysis of the case studies on guidelines for the implementation of "decentralized integrated land and water management".

(iv) **Preparation of a Source Book of Integrated Land and Water management**: The foregoing activities will culminate in the publication of a "Source Book on Integrated Land and Water Management" (see Annex 11 for proposed structure of the handbook). The Source Book will serve as a guide to the GEF family (including project proponents) for the design of initiatives on integrated land and water management. It will also serve as an input to guide the translation of the African Land and Water Initiative from concept to practical application in the field. The Source Book will be peer reviewed and published to coincide with Rio + 10. STAP will establish an Editorial Board to oversee the preparation and publication of the Source Book.

Conceptual Framework for the Case Studies: Questions which each case study must answer.

OBJECTIVES

In the preparation of the case studies emphasis should be placed on the following objectives, which are critical to the successful implementation of community-based land and water initiatives.

- Tangible and Sustainable Socio-economic and Environmental Benefits to livelihoods

  Emphasis should be placed on specific interventions that will improve the long term functioning of social, economic and environmental systems that are sustainable.

- Stakeholder Involvement

  Factors which contribute to making stakeholder involvement in integrated land and water management more effective. This includes promoting communication between communities, scientists, NGOs, and administrators, to enable awareness of each others skills, responsibilities and objectives. This will promote greater awareness among all stakeholders and among community members and provides a better sense of where the community fits in the broader national structure.

- Building on Existing Institutions and Structures

  Rather than assuming that new organizational structures are required for Integrated land and water management, every effort should be made to build on viable existing institutional structures and traditional frameworks.

- Ability to adapt to internal and external change (i.e. flexibility, diversification etc.)

  Integrated land and water strategies as with all development issues, will involve external intervention and local charge. Implementation should enhance, rather than constrain, flexibility and capacity for diversification in local systems. This will contribute to an important goal of reducing communities' vulnerability to risk associated with change.

A. INTRODUCTION

What are the project history, objectives and accomplishments?

- ***Description of the community-based land and water management system: Location, ecosystem, physical characteristics, legislative framework etc.***

- ***Interaction between livelihood systems and biophysical systems***

  The wise and sustainable use of land and water resources requires consideration of a large number of complex and inter-related subjects and poses intricate technical and political problems. Ideally interventions should be tailored to the constraints imposed by the biophysical and socio-economic systems. Consequently, optimal management strategies require an understanding of both the biophysical and the socio-economic environment. In any specific situation, the relationships between biophysical and socio-economic dynamics may not be well understood. Very often links between variables will be uncertain and imprecise and many will be understood in a qualitative rather than a quantitative way.

- ***Within the case study please provide background information (and indicate how the information was obtained) on:***

  What are the key characteristics and dynamics of the Socio-Economic system?
  Describe the institutions, policies and organisations that determine peoples access to resources/assets and opportunities.

  What are the key characteristics and dynamics of the Biophysical system?
  How does the biophysical environment constrain peoples livelihood opportunities (e.g. in terms of natural resource availability, seasonality and/or natural shocks (e.g. floods/droughts)

  How do these systems interact to accomplish livelihood objectives?
  If possible the social, human, physical, financial and natural capital that make up peoples livelihoods should be described.

  What are the key links between the socio-economic and biophysical systems related to Integrated land and water resources management?.

  How were the management interventions of the case study intended to benefit people ?

  Is it possible to say why the entry points for the interventions were selected and who decided that these were appropriate interventions ?

B. SCALE

What are the scale and time considerations?

(i) At the Macro Level:

What is the level of dependence on external inputs?

What policy, issues and events at regional, national and international levels impact the case study directly or indirectly over time in a significant way? *What international, national & regional policies, legislation and events have had a significant impact on the way in which the case-study was planned or implemented? Such policies could include International Conventions (such as the CBD), National Legislation.*
What is the ability of local systems to manage external inputs? (multiple scales - concept of hierarchy)

(ii) Spatial Scale

Does the project identify itself with a particular spatial scale, such as a lake, river etc. How does the project interact with other activities that operate at larger or smaller scales?

What is the dependence of the project on physical external inputs, such as upstream development etc?

(iii) Temporal Scale

Identify the important historical events and/or trends that have influenced or impacted on the case-study. Explain how the project has responded and adapted to these changes over time.

Identify major historical events and/or trends that have influenced the case study area.

C. POWER AND INFLUENCE

What are the key drivers of change in land and water management? (e.g. socio-econ, policy, gross inequity, demography, land tenure reform, power relationships) which part of the community benefit/lose from these?

What are their socio-economic and ecological implications, immediate and over time?

Explain the internal and/or external influencing factors and powers that drive changes in land and water management (positive and negative) These can be factors such as socio-economic influences, policy implementation, gross inequity (wealth and power distribution), demography (population growth); land tenure reforms and power relationships (at local or broader scale). Which part of the community gains/loses from these? Do other stakeholders on a broader scale benefit/lose from these? Explain whether the community can enhance the positive/counter the negative influencing factors. Clarify the socio-economic and ecological implications of these influencing factors now and over the long term. Include in your argument your method of data collection to show if you are reporting from your own observation, the community perspective or if you quote from a broader information base (e.g. literature).

D. UNCERTAINTIES

What level of uncertainty exists in our understanding of the case study situation?

Rural livelihoods are vulnerable to unpredictable natural hazards (e.g. drought, flood), to political events (war, policy changes), and economic forces (SAP, market changes and decisions). Integrated land and water management initiatives should enable the ability of rural livelihoods to absorb and adapt. Diversification provides an important means of coping and maintaining flexibility of future options to facilitate this.

What additional information do you need to address complexity and uncertainty?

Livelihood systems have complex internal and external interactions and linkages. While we cannot uncover all of these, an appreciation of their existence is important.

E. INTEGRATION OF ETHNOSCIENCE AND FORMAL SCIENCE

How have ethno science & formal science contributed to the information base of study? What additional information would have been useful/important? *Give some indication on how modern science and technology have been integrated into the traditional knowledge and experience of local communities to deal with complex ecological, economic and social problems related to land and water degradation. To what extent has the science, results and methodologies developed enhanced the management and implementation of your case studies. For example, has communication and inter-action between scientists and other stakeholders been adequate or are there any additional information and data that you project require encourage integrated ecosystem management.*

F. LESSONS LEARNT

What have we learned in terms of meeting the objectives of understanding Integrated land and water management? What aspects are replicable under what circumstances? What is case specific?

Indicate who has benefited from the interventions described in the case study. Have the interventions benefited the whole of society or just certain sectors. What are the indicators of success/failure of the interventions ? ***Do any improvements represent sustainable changes ?***

The lessons learnt from the experiences in the case study should be clearly outlined. Areas of focus should include the enabling environment which contributed to the success and failure of the project activities; the decision making processes; the relationship between resources and livelihoods, the role of formal science and its inter-linkages with ethno science; how will the project deal with major changes in the future (adaptive management etc.)

Annex III

Source Book on Integrated Land and Water Management

Preliminary Outline

Chapter 1.

State of Science on Integrated Land and Water Management, Challenges and Opportunities

An overview of the State of Science on Integrated Land and Water Management will be presented as a means of identifying challenges and opportunities. The relationships between formal science and ethno science as well as the linkages between resource and livelihood will be explored.

Chapter 2.

Integrated Land and Water Management - A Paradigm Shift within the Global Environment Facility

Analysis of the evolution of the shift from a Sectoral to mere holistic approach to land and water issues within the GEF will be explored. Emphasis will be placed on STAP's role in this process. As a consequence specific reference will be made to the outcomes of STAP Experts Group Workshops on Land Degradation, Interlinkages and Integrated Land and Water Management.

Chapter 3.

Case Studies.

At least ten case studies on efforts on integrated land and water management in Africa will be presented in accordance with the guidelines outlined in the foregoing section for the case studies.

Chapter 4.

Lessons Learnt and Recommendations.

An overview will be presented on the main lessons learnt from the case studies experiences. These lessons will be synthesized and presented as a guide to some of the good practices to Integrated Land and Water Management. It will also highlight some of the less successful lessons learnt from the case studies.

Chapter 5.

Looking Toward the Future:

Implementation of Decentralised Integrated Land and Water Management.