



Global Environment Facility

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Agenda Item 8

PROJECT PROPOSALS SUBMITTED FOR COUNCIL APPROVAL

Recommended Council Decision:

The Council reviewed the proposed Work Program submitted to Council in document GEF/C.13/8 and approves it subject to comments made during the Council meeting and additional comments that may be submitted to the Secretariat by May 28, 1999.

The Council finds that [, with the exception of _____,]each project presented to it as part of the Work Program (i) is or would be consistent with the Instrument and GEF policies and procedures and (ii) may be endorsed by the CEO for final approval by the Implementing Agency, provided that the CEO circulates to the Council Members, prior to endorsement, draft final project documents fully incorporating the Council's comments on the Work program accompanied by a satisfactory explanation by the CEO of how such comments and comments of the STAP reviewer have been addressed and a confirmation by the CEO that the project continues to be consistent with the Instrument and GEF policies and procedures.

[With respect to _____ the Council requests the Secretariat to arrange for Council Members to receive project documents and within four weeks transmit to the CEO any concerns they may have prior to the CEO endorsing a project document for final approval by the Implementing Agency. Such projects may be reviewed at a further Council meeting at the request of at least four Council Members.]

CONTENTS

I. Work Program	1
II. Conformity with Project Review Criteria.....	2
Evidence of country ownership.....	2
Replicability	2
Sustainability of Projects	3
Lessons Learned	4
Conformity with GEF Public Involvement Policy.....	5
Incremental cost.....	6
Collaboration/Coordination	6
Land degradation	7
Impact.....	8
III. Operational Issues.....	8
Climate Change Portfolio	8
Implementing Agency Co-financing.....	9
Project Cycle Issues	10
IV. Project Summaries.....	11
Biodiversity.....	11
Climate Change.....	17
International Waters.....	22
Ozone Depletion	25

ANNEXES

Annex A	Project Proposals Submitted for Council Approval
Annex B	Cumulative GEF Allocations to Work Programs and other Projects
Annex C	Approved Medium-sized Projects (December 1998 to February 1999)
Annex D	Project Development Grants (Block A): December 1998 to February 1999
Annex E	Project Development Grants (Block B): December 1998 to February 1999
Annex F	Enabling Activities Under Expedited Procedures (December 1998 to February 1999)

I. WORK PROGRAM

1. The Chief Executive Officer (CEO), after reviewing the conclusions and recommendations of the bilateral review meetings with the Implementing Agencies, proposes to the Council for its consideration and approval a Work Program comprising 27 full-sized project proposals and one medium-sized project.
2. The Work Program has a proposed allocation of \$237.82 million in GEF financing out of a total cost of \$755.49 million (see Annex A for details). One of the projects is *Venezuela: Conservation and Sustainable Use of the Llanos Ecoregion*; this medium-sized project is submitted to Council for approval because it exceeds the CEO's approval limit of \$750,000 and is the third medium-sized project to be submitted for Council approval. All other medium-sized projects had been approved by the CEO under the expedited procedures.
3. GEF finances full projects, medium-sized projects, and enabling activities. If the Council approves this Work Program, the cumulative GEF financing for *full projects* would amount to \$2,404.7 million (see Annex B for details). With respect to *medium-sized projects* approved by the CEO under expedited procedures, four biodiversity projects with a total GEF allocation of \$2.22 million were approved during this reporting period (December 1998 to February 1999) as well as one climate change project for an allocation of \$0.74 million (see Annex C for details). These approvals bring to 23 the total number of medium-sized projects approved to date, with a total GEF allocation of \$18.08 million.
4. From December 1998 to February 1999, the *Project Development Facility (PDF)* has financed project preparation through 15 PDF As amounting to \$0.397 million approved by the Implementing Agencies, and 15 PDF Bs totaling \$4.8 million approved by the CEO (see Annex D and E for details).
5. GEF support for enabling activities to date covers 118 countries for biodiversity and 123 countries for climate change (activities for all 118 countries under biodiversity and 84 countries under climate change were approved under the expedited procedures). The activities approved by the CEO during this reporting period (December 1, 1998 – February 28, 1999) were five projects with a total GEF financing of \$ 0.97 million, including two Clearing House Mechanism add-on projects (see Annex F for details). As of February 1999, 71 of the countries that are supported by GEF had submitted their first national reports under Convention on Biological Diversity and 11 countries had submitted their first national communications under the UN Framework Convention on Climate Change.
6. The GEF Research Committee reviewed on March 10, 1999 six proposals submitted by the Implementing Agencies (five from the World Bank and one from UNDP). The Committee endorsed the scientific and technical soundness of two eligible targeted research projects, with recommendations for improvement and clarifications prior to their further processing. They were:

- *South Africa: Conservation of Globally Significant Biodiversity in Agricultural Landscapes through Conservation Farming* (World Bank - Biodiversity)
- *Mexico: Oaxaca Sustainable Hillside Management* (World Bank – Climate Change)

II. CONFORMITY WITH PROJECT REVIEW CRITERIA

Evidence of country ownership

7. Endorsement letters of GEF focal points are the mandatory minimum indication of country ownership.

8. More substantial evidence is also available as pledges of substantial co-financing. Co-financing is a strong indicator of the level of commitment of the requesting governments and other stakeholders to the successful implementation of the project and its future sustainability. The Work Program offers numerous exemplary cases. The Government of Cambodia is willing to use some of its limited IDA resources to launch the *Biodiversity and Protected Area Management Pilot Project for the Virachey National Park*. The Government of India and the State Government of Tamil Nadu will finance two-thirds of the project *Conservation and Sustainable Use of the Gulf of Mannar Biosphere Reserve's Coastal Biodiversity*; a Venezuelan non-governmental organization will provide significant co-financing to the medium-sized project *Conservation and Sustainable Use of the Llanos Ecoregion*. The Governments of Cuba and Jamaica will finance three-fourths of the *Caribbean Bays* nutrient reduction project and the Government of Suriname has added 1.5 m hectares of pristine tropical forest under protection, giving up substantive forest concessions revenues through the project *Conservation of globally significant Forest Ecosystems in Suriname's Guyana Shield*.

9. In future, consideration could be given to requesting the GEF focal points to explicitly confirm the country's intention to secure the financing of the necessary baseline actions identified as critical to project success at the time they endorse proposals for submission to GEF.

Replicability

10. This Work Program illustrates a growing emphasis on demonstrations of innovative approaches and technologies with potential for replication. Mechanisms to disseminate good practices and demonstrations within countries and regions are increasingly part of project design. The GEF component in the project *Philippines: Coastal and Marine Biodiversity Conservation in Mindanao* focuses on two sites which provide attractive replication opportunities in Mindanao, and the Philippines in general, under the Adaptable Lending Program of the World Bank. The International Waters project *Georgia Agricultural Development II* will demonstrate the effectiveness of nutrient reduction practices, coupled with production of biogas, in farm management, and facilitate their full-scale introduction in Georgia and other Black Sea littoral countries.

Cambodia's biodiversity project *Biodiversity and Protected Area Management Pilot Project for the Virachey National Park* could serve as a model for other protected areas in the country. The approach taken in Ethiopia's *Conservation and Sustainable Use of Medicinal Plants* could serve as a model to expand the approach to other useful plants for human and livestock health in the country or in neighboring countries.

11. The project *Philippines: CEPALCO Distributed Generation PV Power Plant* is designed to test the potential for introducing complementary photovoltaic technology at hydro sites experiencing water shortages to provide higher value "firm" power. As there exist a very large number of hydro facilities in developing countries with good characteristics for solar energy systems (for an estimated total of 360,000 MW), this approach has enormous potential for replication through country driven alliances to promote commercialization and rapid market growth of GRID connected PV. The project *Mexico: Renewable Energy for Agriculture* is the first to focus on opportunities to improve productivity and income among rural farmers using renewable energy, with potential impact on the estimated 600,000 unelectrified farms in Mexico alone.

Sustainability of Projects

12. Sustainability after project completion of GEF facilitated actions is addressed in this Work Program in a number of ways. Long term financial mechanisms, such as trust funds, are being applied in several biodiversity projects (*Bolivia: Achieving the Sustainability of the Bolivian Protected Area System; Cote D'Ivoire: National protected Area Management; Malawi: Mulanje Mountain Biodiversity Conservation; and Suriname: Conservation of Globally Significant Forest Ecosystems in Suriname's Guyana Shield*), in light of the recent monitoring and evaluation review and recommendations (see *Experience with Conservation Trust Funds*, GEF, 1998). The project, *Philippines: Coastal and Marine Biodiversity Conservation in Mindanao*, will mainstream biodiversity concerns through community efforts within the larger Mindanao Rural Development project of the World Bank. The GEF component seeks to secure a greater level of commitment from the community, thereby enhancing the sustainability of project outcomes. The project in Malawi, *Mulanje Mountain Biodiversity* will seek to ensure sustainability by increasing local community participation in project activities and through in-kind commitments of conservation activities. The project in Ethiopia *Conservation and Sustainable Use of Medicinal Plants* will ensure natural resource sustainability through the implementation of ex-situ conservation of medicinal plants in home gardens and agricultural parcels.

13. In biodiversity, recurrent cost financing is essential for sustainability. Although the Government is not contributing financially to the project, *Suriname: Conservation of Globally Significant Forest Ecosystems in Suriname's Guyana Shield*, it is contributing substantially to the project through setting aside the land and canceling forestry concessions in the area. Recurrent costs in this case would be financed from the trust fund established under this project. In the climate area, barrier removal projects continue to address sustainability primarily through support for the creation of financial mechanisms,

new institutions, and demonstrations. For example, the project, *Malawi: Barrier Removal to Malawi Renewable Energy Programme*, will explore the use of micro loan schemes as a vehicle for cost reducing bulk purchases and community-based financing of low-income consumers. The project, *Mexico: Renewable Energy for Agriculture*, will test the feasibility of vendor financing to overcome the absence of rural credit systems for farmers.

14. In the regional International Waters project. *Reversing Degradation Trends in the South China Sea*, sustainability is viewed at two different levels: the individual demonstration site, where a win-win criterion will be applied during site selection, and the regional level. It is anticipated that the regional framework for cooperation will be strengthened to the point that recurrent costs of coordination after project completion will be met from within the region.

Lessons Learned

15. Lessons from previous experiences with conservation trust funds (“Factors Important For Establishing a Trust Fund”) now guide the Secretariat’s project review criteria. Their application in the design of future projects will be systematic. Numerous biodiversity projects (India, Bolivia, Cote d’Ivoire, Malawi, Suriname) in this Work Program include, or consist of, the establishment of trust fund mechanisms. In the case of Malawi, the criteria set forth in the trust fund evaluation report (cited above) are taken into consideration but still not fully reflected in the project brief. In contrast, the design of the trust fund component in the projects *Cote d’Ivoire National Protected Area Management Plan* and *Suriname: Conservation of Globally Significant Forest Ecosystems in Suriname’s Guyana Shield* fully reflect previous experiences and lessons gained from them.

16. In the International Waters focal area, one project deserves particular mention with respect to the evolution of project quality with growing experience: UNEP’s *Reversing Degradation Trends in the South China Sea*. Several countries of southeast Asia and China have joined in this effort and since the PDF-B phase have agreed on the priority environmental concerns of global significance affecting the shared sea. Instead of concentrating exclusively on programming actions and facilitating policy reforms, as previous similar exercises did, the project includes as a principal component nine large-scale, on-the-ground demonstrations of remedial measures. It is expected that these demonstrations will greatly enhance the project’s ability to facilitate future national investments and regional cooperation for the protection of this marine ecosystem of global relevance.

17. While consideration of renewable energy and energy efficiency technologies as alternatives to conventional choices is increasingly common in developed countries, experience gained in GEF activities so far suggests that alternative technologies are still playing minor roles in recipient countries. Several climate projects have demonstrated that community awareness and support, and perceptions of local investors are elements critical to project success. This is reflected in significant outreach and education components in

several projects, including *Slovenia: Removing Barriers to the Increased Use of Biomass*, *Malawi: Barrier Removal to Malawi Renewable Energy Programme*, and *Mexico: Renewable Energy for Agriculture*. Another area of increasing attention is the potential for using guarantees and other non-grant modalities to bring about sustainable financing for clean energy projects, an element in *Mexico: Renewable Energy for Agriculture*.

Conformity with GEF Public Involvement Policy

18. Results of GEF evaluation and implementation reviews of projects indicate that stakeholder participation, when carried out early enough, can influence a project's design. Meetings and workshops were held prior to finalizing project activities, some of which involved multiple countries and regional agreements, such as the five international waters projects. The Mozambique biodiversity project conducted participatory logframe workshops and public meetings in Maputo. One recommendation from these consultations, the hiring of social advisors to be based in each project site, will be built into the project's implementation set-up.

19. Several projects will be executed by non-governmental institutions who will work closely with national and local government units. These include local NGOs, such as the Venezuela biodiversity project where a lead national NGO is in charge of project management. Parastatals and private firms are the executing agencies for three of the climate change projects (Mexico, Morocco, and China). Additionally, government-executed projects will set up multi-stakeholder committees (e.g., climate change projects in Slovenia, Malawi, and Philippines; biodiversity projects in Cote d'Ivoire, Ethiopia, and Peru).

20. Mechanisms for ensuring community participation are built into some of the projects' implementation structure. For example, in two biodiversity projects, village marine conservation councils will be organized in India for at least 20 coastal villages where user rights agreements will be negotiated between communities and government. Another mechanism is found in Mozambique through appropriation of local funding for micro enterprises which target women's sustainable livelihoods. The *Slovenia: Removing Barriers to the Increased Use of Biomass as an Energy Source* climate change project incorporates an exemplary participatory approach to involve local stakeholders. The project will disseminate public awareness raising material, and advise local communities, land owners associations, and industry on the latest available technical options and their economic, environmental, and social benefits and constraints.

21. The participation of disadvantaged populations, such as indigenous groups and women, will be assured through targeted interventions. The Peru biodiversity project is primarily geared towards development of sites occupied by over 41 indigenous groups through support of existing tribal federations. A Multisectoral Commission for Protected Areas will provide funding for community activities. The other projects which address the needs of indigenous or tribal populations are the biodiversity projects in Cambodia, Venezuela, and Suriname. In addition, there are sites with historical and cultural value

(World Heritage Sites), such as the Comoe and Mont Nimba sites in Cote D'Ivoire. The Ethiopia project has a specific component for enhancing participation of women as health practitioners and their knowledge of traditional medicine.

22. Renewable energy projects in rural areas incorporate some innovative delivery mechanisms to ensure widespread acceptance of new technologies. The Malawi *Mulanje Mountain Biodiversity* project will form District Development Committees to assist community banks whose client base are almost all women, and which have low default rates. Selection of an independent power producer for a *Solar-based Thermal Plant* in Morocco, will involve various stakeholder groups, including the private sector and local NGOs.

Incremental cost

23. There is increasing evidence that the application of the logframe methodology in project design facilitates the estimation of incremental cost of the project. The present Work Program shows how this is being done increasingly well. An exemplary case is represented by the project *India: Conservation and Sustainable Use of the Gulf of Mannar Biosphere Reserve's Coastal Biodiversity*.

24. At the London Workshop on Clarifying and Simplifying Incremental Costs held on 25-26 March, 1999, the participants recommended that at the time a project proposal is submitted for work program inclusion, the proposal estimate a range for the incremental cost, which is still uncertain at that stage of preparation. The need for a range stems from the uncertainty about cost figures and the scale of the project. The uncertainty is addressed through including contingencies in the budget. These contingencies typically are about 10-20% of the initial capital costs of the project and can be large, especially for investment projects. Both the *Morocco: Solar-based Power Project* and the *Philippines: Grid-connected PV Project* included in this Work Program illustrate the uncertainties in incremental costs at early stages of project preparation. These uncertainties are expected to be removed prior to CEO's endorsement of the project.

Collaboration/Coordination

25. Various levels of collaboration and coordination mechanisms are exemplified in the Work Program. Multi-country projects, particularly in the International Waters focal area, are based on the commitment of countries sharing a common environmental resource to join efforts to address causes of transboundary environmental degradation. In the project, *Mekong River Basin – Water Utilization*, all the lower basin riparian countries collaborate through an established body, the Mekong River Commission. The same project has built in mechanisms of coordination with UNDP regular programs and with other complementary GEF projects in the same region. In the absence of a regional body or convention, the project, *Reversing Degradation Trends in the South China Sea*, instead enhances opportunities of collaboration among littoral countries with a view toward encouraging the creation of such a regional body.

26. Closer collaboration between government, NGOs, and indigenous peoples is sought in the Peru project on *Indigenous management of Protected Areas in the Amazon*. Government agencies in the health and environmental sector will be closely collaborating with local communities to address the conservation and sustainable use of medicinal plants in Ethiopia through the project, *Conservation and Sustainable Use of Medicinal Plants*. Extensive partnerships are developing between multilateral, bilateral, and governmental agencies and international and national NGOs to assist in the implementation of the *Suriname: Conservation of Globally Significant Forest Ecosystems in Suriname's Guyana Shield* and in the Cambodia biodiversity project, *Biodiversity and Protected Area Management Pilot Project for the Virachey National Park*. Collaboration at the national level among NGOs, is well exemplified by the project *Venezuela: Conservation and Sustainable Use of Biodiversity in the Llanos Ecoregion*. The project will be executed by an NGO, FUDENA, in close collaboration with several other NGOs. The project relies on a methodology that fully involves NGOs in planning and builds on local NGO capacity through implementation.

27. GEF Implementing Agencies will strengthen their collaboration through the present Work Program. While participation of all three Implementing Agencies in steering committees of projects is often seen as the main mechanism to ensure awareness and shared ownership, the incentives to make such mechanisms effective have seldom been incorporated in project proposals or project documents. Under the proposed fee-based system though, recognition could be given to any increased costs of collaboration.

28. Co-implementation appears to be a more effective way of achieving the desired level of commitment. The project, *Cuba and Jamaica: Demonstration of Innovative Approaches to the Rehabilitation of Heavily Contaminated Bays in the Wider Caribbean*, wherein UNEP and UNDP co-implement clearly defined components according to their comparative advantages, is an exemplary case.

29. Creating frameworks for information sharing and collaborative decision making is a central purpose of the project, *China: Energy Conservation and GHG Emission Reduction in Chinese Township and Village Enterprises*. The project seeks to achieve national impact, building on eight county level projects through two mechanisms: a non-governmental technical consortium, and county and local level policy implementation committees that include representatives from commissions, ministries, and other relevant institutions and experts.

Land degradation

30. None of the projects in this Work Program explicitly include land degradation activities, either directly or through components of biodiversity or international waters projects. The Secretariat and Interagency Task Forces have considered the lack of project proposals. To address this issue, the Secretariat is collaborating with the Secretariat of the Convention to Combat Desertification to identify interlinkages between global

environmental objectives and land degradation activities. STAP has been requested to provide technical scientific input on these links and the work is ongoing. Another complementary effort is being developed in the GEF. It consists of exploring ways to integrate biodiversity, climate change, and international waters projects towards the common objective of reversing land degradation, while accruing global benefits. This new approach requires a defined territorial framework (watershed, bioregion) and adopts a broad definition of land degradation, “comprising soil, vegetation, other biota, and the ecological and hydrological processes that operate in the given system” (CCD Convention). An “Initiative for Africa”, which adopts this approach, is in the early stages of preparation following a meeting of the Heads of GEF Implementing Agencies and of the Secretariat (March 11, 1999). Recognizing that the issues of land and water degradation are crucial to Africa’s sustainable development, the Heads of Agencies agreed to develop a coordinated action program to address these issues through the GEF, the three Agencies, and others.

Impact

31. The overall impacts of strategic and programmatic approaches are clearly starting to emerge. In fact, within a growing portfolio, projects can now be seen clustering in geographic areas and/or focusing on priority environmental issues. In South East Asia, several complementary biodiversity and international waters projects and preparatory funds jointly seek to reverse degradation trends in the coastal, marine, and inland waters environments (*Building Partnerships for the Environmental Protection and Management of the East Asian Seas*, UNDP, approved May 1998; *Reversing Degradation Trends in the South China Sea*, UNEP, this Work Program; *Mekong River Basin Water Utilization Project*, World Bank, this Work Program; *Mekong River Basin Wetland Biodiversity Conservation and Sustainable Use*, UNDP, PDF-B approved October 1997). Black Sea countries are now starting to concentrate their requests and some investments on innovative solutions to the recognized main cause of degradation of their shared sea, nutrients pollution (*Georgia Agricultural Development II*, World Bank, this Work Program).

III. OPERATIONAL ISSUES

32. The quality of project proposals included in a Work Program is improving. The improved quality achieved by UNDP biodiversity and UNEP international waters project proposals during the last fiscal year deserves special mention.

Climate Change Portfolio

33. Over the last few Work Programs, there has been a general shortfall in the volume of climate change projects relative to the allocations that had been projected earlier. This is particularly apparent if one sets aside the large GEF allocation (\$31.7m) to the project *Morocco: Solar-based Thermal Plant* (OP7) included in the present Work Program. The

potential need for new means to facilitate country and private sector commitments to climate change projects needs to be addressed, and is an objective of the proposed *Strategic Partnerships for Renewable Energy* (GEF/C.13/9).

34. In the past, the GEF had proposed, under Operational Program No.7, to fund those technologies that were projected to achieve sufficient cost reductions within the range of GEF support to become widely commercial. In practice, the application of this requirement has been questioned as unduly restrictive and, on the basis of a workshop organized in cooperation with the World Bank, a modified approach is proposed as the basis for review of the *Morocco: Solar-based Thermal Power Project*. The Workshop participants acknowledged that as the total financial needs to move technologies in Operational Program Number 7 to commercial status are huge, the GEF with its limited resources could only play a catalytic role. According to the suggested modified approach, after initial demonstration of technical and economic promise, GEF would finance three to four operations in a first phase to re-build the global capacity for the replication and management of this strategic technology, gain insights about costs, and establish its credibility with other partners. In the case of solar thermal technology, an approximate calculation carried out after the workshop suggests that this phase would entail GEF incremental cost financing in the order of \$ 150-200 million. If these initial projects support the further development of this technology, a second market development phase anticipates up to six additional projects, conditional on the sharing of the incremental cost burden with other partners in order to further validate commercial interest. This phase could require an additional GEF support of perhaps \$ 200-250 million, implying a total commitment by GEF of \$ 350-450 million over 10 years. This is well within the total resource envelope of \$ 100-200 million per year anticipated for Operational Program Number 7. Progressive burden sharing arrangements would continue in the subsequent phases. Similar considerations would hold for other technologies in this operational program, such as grid-connected photovoltaic power plants proposed in the *Philippines: Grid-connected PV Distributed Utility Pilot Plant* included in this work program.

Implementing Agency Co-financing

35. The level of Implementing Agency co-financing is progressively decreasing with respect to past Work Programs. This trend, particularly visible in UNDP projects (less than three percent in relation to GEF contributions in a number of cases), has been also noted in project documents at the time of endorsement. This may imply the lack of effective efforts to date to integrate global environmental issues. Council may wish to note the current efforts being reported by the Implementing Agencies on this matter. This issue could emerge as a priority for consideration by the monitoring and evaluation team.

36. Steps will be taken to reach a clear consensus among the Agencies and with the Secretariat on the terms *leveraging*, *co-financing*, and *associated* or *parallel financing*. The need for such clarification has, in fact, emerged during the preparatory phases of this Work Program and the endorsement process, and is one of the recommendations of the 1999 Program Performance Report. This report concluded that a broader definition of

leveraging is appropriate, but the details of a new operational definition still need to be worked out.

Project Cycle Issues

37. Some of the World Bank biodiversity proposals that had been considered for inclusion in this Work Program, while conceptually appealing, had been presented prior to project preparation and therefore prematurely. Preparation, financed through PDF resources, will continue until these concepts are transformed into specific proposals for Council approval. The general issue of preparedness will be reviewed with the Implementing Agencies in April 1999. The Secretariat is concerned to ensure that quality standards for the various decision points in the project cycle are clearly understood and uniformly applied across agencies, regions, and focal areas, and that the broader goals of streamlining the project cycle and integrating GEF requirements in Implementing Agencies procedures are also met.

38. The CEO approved 14 PDF-B grants for project development during the period. These grants appear to be increasingly needed to shape countries' requests into eligible projects. Most projects presented here were assisted through these funds. Particular attention will be given to project development funds, in particular PDF-B grants, as part of the ongoing review of the GEF project cycle being carried out in consultation with the Implementing Agencies and the continuing effort to integrate global environmental priorities in their regular work programs. The aim of the project cycle review is to consolidate decisions that have been taken with respect to the project cycle, to remove operational ambiguities, to assess the impacts of streamlining already undertaken, and to propose for Council consideration changes (if any) that may be desirable.

39. Two projects build upon opportunities provided by the Adaptable Program Loan mechanisms (APL) of the World Bank (*Georgia Agricultural Development II*, and *Cote d'Ivoire: National Protected Area Management*). The project cycle review will consider how the flexibility inherent in APLs and in another lending instrument (the Learning and Innovation Loan) can be used for their potential for mainstreaming global environmental issues. These lending instruments are compatible with the long term benchmarked approach to global environmental problems recommended by the Program Performance Report, 1998.

IV. PROJECT SUMMARIES

Biodiversity

Bolivia: Sustainability of the National System of Protected Areas (World Bank), GEF: \$15.30 million; Total: \$46.70 million

The project is the first phase of a 15-year program aimed at strengthening the conservation of the protected areas system in Bolivia by: (a) developing a long-term master and action plans; (b) developing mechanisms to achieve long-term social, financial, and ecological sustainability; (c) establishing a private trust fund; (d) improving protected area management in the short and medium term; and (e) improving understanding of biological trends within protected areas.

Expected project outputs after five years of implementation: (a) master and action plans for the protected areas; (b) decentralization of PA management; (c) establishment of a revenue capture system; (d) establishment of a trust fund; and (e) operationalization of a biological monitoring system.

Cambodia: Biodiversity and Protected Areas Management Pilot Project for Virachey National Park (World Bank) GEF: \$2.75 million; Total: \$5.00 million

The proposed project would assist the Cambodian government to take a proactive approach for the conservation and sustainable use of biodiversity in a phased approach. It would assist in minimizing illegal exploitation or degradation of the relatively intact biodiversity of national and global importance in the Virachey National Park. It would also develop and demonstrate a model approach (for Cambodia) to protected area management appropriate for the country.

Expected Project Outputs after 4 years of Implementation: (a) Park management organization established; (b) proposed training programs completed; (c) operational guidelines issued; (d) institutional framework for long-term financing developed; (e) conservation awareness program completed; (f) infrastructure completed; (g) biophysical and socio-economic surveys completed; (h) park boundary demarcation completed; (i) a five-year management plan developed; (j) selective community-based livelihood programs implemented; and (k) environmental decision support system operationalized

Cote d'Ivoire: National Protected Areas Management Program (World Bank) GEF: \$16.50 million; Total: \$68.22 million

The project is aimed at: (a) building the capacity of the Government to effectively manage protected areas; (b) implementing a protected areas management system that improves the participation of NGOs, private sector, and communities; and (c) improving the ecological status of selected protected areas. These goals would be achieved by: (a) strengthening

the legal and institutional framework; and (b) creating institutions to manage the financial and technical aspects of protected areas management.

Expected Project Outputs after 12 years of Implementation: (a) improved legal and regulatory framework for protected areas management; (b) establishment of an endowment for protected areas management; (c) implementation of management plans for specific sites, including buffer areas, with the involvement of local communities, private sector, etc.

**Ethiopia: Conservation and Sustainable Use of Medicinal Plants (World Bank)
GEF: \$1.91 million; Total: \$6.81 million**

The project would provide support for the conservation, sustainable use, and utilization of medicinal plants for human and livestock health. The GEF component focuses on inventory work on medicinal plants, located in the Bale Mountains National Park, with studies of harvest, production, and determination of degree of endangerment, development of community-oriented management guidelines for sustainable harvest in appropriate zones of the park, development of cultivation trials and techniques, and training in conservation for both park staff and local communities.

Expected Project Outputs after 5 years of Implementation: (a) on institutional strengthening and monitoring and evaluation, the project Coordinating Unit and monitoring and evaluation developed and implemented and the capacity of key institutions and organizations strengthened; (b) on studies, research, and database development, proposed assessments conducted and reports prepared; database established; safety, efficacy, and dosage levels determined for commonly used herbal remedies; and propagation and cultivation methods for selected plants developed; (c) on in-situ conservation in the Bale Mountains, on site management, surveys, and zoning conducted and implemented; guidelines for sustainable management and harvesting developed; impacts of harvesting monitored and evaluated; and (d) ex-situ pilot cultivation trials initiated; training conducted; and public education and awareness campaigns implemented.

India: Conservation and Sustainable use of the Gulf of Mannar Biosphere Reserve's Coastal Biodiversity (UNDP) GEF: \$7.85 million; Total: \$26.94 million

The Gulf of Mannar Biosphere Reserve is located in Southern India's Gulf of Mannar and the biodiversity here is principally threatened by habitat destruction, over-harvesting of marine resources, and to lesser, more localized extent, civic pollution. The overall objective of this project is to conserve the Gulf of Mannar's globally significant assemblage of coastal biodiversity and to demonstrate, in a large biosphere reserve with various multiple uses, how to integrate biodiversity conservation into coastal zone management plans. To this end, the Government of Tamil Nadu will establish the Gulf of Mannar Biosphere Reserve Trust (a Foundation) to ensure effective inter-sectoral coordination and facilitate mainstreaming of biodiversity conservation issues into the productive sector and policy development. An adaptive management approach will employ the results of targeted studies and monitoring to ensure appropriate adaptation of local

level resource use. The end result will be adaptive, iterative, and participatory management of the Reserve. The statutory Trust/Foundation is seen as an innovative mechanism that will allow for project methodologies and results to be replicated for the rest of the coastal area of Tamil Nadu and demonstrate an institutional model for India as a whole. This project has already leveraged significant co-financing from the GoI and GoTN, as well as significant policy in the establishment of the Trust/Foundation.

Expected project outputs after seven years of implementation: (a) Park management strengthened and the attendant biodiversity conserved through traditional protected area, and improved coastal zone management in the buffer zone; (b) sustainable livelihoods established through the modification of existing non-sustainable activities in the buffer zone; (c) the Park will be zoned for management of priority habitats with full participation of communities in park management; (d) technical and administrative staff of local and national institutions trained in integrated coastal area management; and (e) significant co-financing leveraged from the GoI and GoTN for the establishment of the Trust Fund.

Malaysia: Conservation and Sustainable Use of Tropical Peat Swamp Forest and Associated Wetland Ecosystems (UNDP) GEF: \$6.30 million; Total: \$12.97 million

The project's goal is to ensure the conservation and sustainable use of globally significant biodiversity within Malaysia's Peat Swamp Forest (PSF) areas through the pursuit of three objectives, namely, demonstration of inter-sectoral planning, application of these plans, and institutional strengthening. The global biodiversity values found in Malaysia's tropical PSF ecosystems are exemplified by the three sites selected for the present project, each of which represents a distinct PSF ecosystem complex in Malaysia. The three project sites collectively support at least 60 globally significant species of plants and animals.

At each project site, a strategy will be adopted to sustainably remove threats on the basis of a two-tiered approach involving activities in the core "focal areas", supplemented by activities in the surrounding "buffer areas". This will contribute to implementation of both the Biodiversity Action Plan and the National Wetlands Plan by providing demonstrations of conservation and sustainable management of peat swamp forests. The project will ensure conservation and sustainable use at three sites, as well as demonstrating what is required for the adoption of a multi-sectoral approach to peat swamp forest management throughout Malaysia. It will support implementation of the Convention on Biological Diversity and the Ramsar Convention.

Two issues require special attention during appraisal of the project. The first relates to ongoing and planned resettlement of indigenous groups in one of the project sites, and to other adjacent sites. At the time of CEO endorsement, assurance is needed regarding development of a resettlement plan involving the Ibans, and the Orang Asli, which are World Heritage/Cultural Sites in danger of human tribal extinction. An outline of a development plan may be submitted to assure UNDP and GEF that the needs and concerns of the tribal groups are taken into consideration, and that there are sufficient consultations to ensure agreement on location, compensation, and livelihood support (to recover income displacement). The impacts of any resettlement program, as planned by

state government, should be disclosed to all concerned, in line with GEF's public involvement policy, including provisions for dispute resolution.

The second issue concerns logging in primary tropical forests by the state government in areas adjacent to the project site. Although new guidelines will be developed, and forest categories may be revised, additional measures are needed such as systems of monitoring, enforcement and incentives. At the time of project endorsement, a plan for ensuring minimal logging in primary forests, should be included in the project document.

Expected project outputs after five years of implementation: a) data collection, information management and monitoring program installed to facilitate decision-making; (b) well-formulated site management plans, addressing issues such as biodiversity, physical functions, and sustainable use; (c) inter-agency networks at State level to integrate biodiversity overlays into development planning on peatlands; (d) improved awareness of peat forests and associated wetland ecosystems by decision makers, communities, and key stakeholders; and (e) strengthened institutional and human capacities to conserve and sustainably manage biodiversity in peat forests.

Malawi: Mulanje Mountain Biodiversity Conservation (World Bank) GEF: \$5.30 million; Total: \$6.83 million

The project would assist Malawi to conserve the globally important biodiversity of the Mulanje mountain and its ecosystem. This would be achieved through a combination of environmental management and capacity building of local communities living around the mountainous region, establishment of a long-term financing mechanism, conservation research activities, increased conservation efforts, environmental education and awareness activities, and supporting projects that relieve the pressure on the massif's natural resources with the consultation and full involvement of the local communities.

The project proposes to establish a trust fund for long-term financial sustainability. At time of endorsement, the Bank has agreed to explore further the fund's capitalization and strategy for raising adequate financial resources to meet project needs and to provide any necessary assurances on the financial sustainability of the GEF activity.

Expected Project Outcomes after 7 years of Implementation: (a) trust fund established to carry out implementation, monitoring, and evaluation of projects receiving trust fund support; (b) institutional strengthening developed; (c) biodiversity conservation and biodiversity conservation-compatible community-development activities identified and implemented; (d) enhanced environmental awareness; reliable ecological and socio-economic information generated and utilized for management purposes; and (e) a reliable, long-term funding structure established and fully functional.

Mozambique: Coastal and Marine Biodiversity Conservation (World Bank)
GEF: \$4.08 million; Total: \$9.21 million

The project is aimed at testing and refining an approach to achieve sustainable economic development of coastal zone resources through a strategic development planning process that integrates ecological, social, and physical values, and balances the varying interests involved in their management. GEF support would specifically focus on the: (a) preparation of a biodiversity overlay to a strategic spatial development plan; (b) protection of globally significant areas and species; (c) establishment of a monitoring system; (d) integration of global biodiversity specifications into a tender for private sector concession; and (e) capacity building for the conservation and management of biodiversity.

Expected Project Outputs after four years of Implementation: (a) effective conservation of globally important coastal and marine habitats and species; (b) improved capacity for management of conservation areas through a partnership between government agencies and local communities; and (c) provision of alternative livelihoods for the communities in the buffer zones of the most sensitive areas to remove threats to ecological sustainability.

Peru: Indigenous Management of Protected Areas in the Amazon (World Bank)
GEF: \$10.35 million; Total: \$24.00 million

The project would support protected area (PA) management and natural resource management in the Peruvian Amazon, particularly by indigenous peoples. The government is seeking to expand effective forest conservation in the Amazon region to cover approximately 10 percent of the biome through the establishment of up to 9 new protected areas covering at least 5.1 million hectares. The government is also seeking to promote greater involvement of local communities, particularly indigenous peoples, in the direct management of PAs to ensure equitable benefit sharing resulting from the establishment of communal reserves as part of an overall strategy for rural poverty alleviation.

Expected Project Output after 5 years of Implementation: (a) sustainable use of biodiversity by indigenous communities improved; (b) increased active participation by indigenous communities in natural resource and PA management; (c) territorial demarcation of protected and communal areas completed; (d) tested models for sustainable natural resource use; (e) exchange of experience between communities increased; and (f) rehabilitation of degraded areas begun.

Philippines: Coastal and Marine Biodiversity Conservation in Mindanao (World Bank) GEF: \$1.25 million; Total: \$6.05 million

The GEF-assisted coastal and marine biodiversity conservation component of the proposed Mindanao Rural Development project (MRDP) will remove barriers to mainstreaming marine and coastal biodiversity conservation in coastal zone development by: (a) establishing community-based management of marine sanctuaries; (b) strengthening local capacity to address marine ecosystem management issues; (c) enhancing the knowledge base for sound ecosystem management and decision-making, including monitoring and evaluation for sustainable long-term marine ecosystem management; and (d) developing policy and action plans for marine biodiversity conservation. These activities would have considerable replication potential in Mindanao as part of the MRDP that would be an Adaptable Lending Program of 10-12 year duration. The lessons learned would have applicability in other regions of Philippines and other tropical countries.

Expected project outputs after three years of implementation: (a) resource assessment survey of selected conservation sites; (b) strengthened local marine resources surveillance; (c) resource monitoring and evaluation program; (d) alternative income generation activities developed and executed; and (e) personnel from government agencies, NGOs, schools etc. trained in sustainable marine and fisheries management issues.

Suriname: Conservation of Globally Significant Forest Ecosystems in Surinam's Guyana Shield (UNDP) GEF: \$9.54 million; Total: \$18.33 million

The project will assist Suriname to protect and sustainably manage key tropical forest wilderness areas in the Guyana Shield region. The project will strengthen protected area management in the Central Suriname Nature Reserve (CSNR), the single largest tropical forest reserve in the Guyana Shield, and the Sipaliwini Nature Reserve (SNR) in southern Suriname. It will build capacity at all levels to manage protected areas and their biodiversity, build Suriname's conservation constituency through targeted awareness and education components, promote conservation compatible livelihood alternatives, and create a long-term funding mechanism to ensure financial sustainability of conservation efforts in the country. The extensive participation of NGOs and community groups in conservation activities will be secured and encourage collective decision-making and collaboration.

Expected project outputs after five years of implementation: (a) policy development functions, capacities, and management controls related to biodiversity conservation are strengthened at a national level; (b) SCF, the Suriname Conservation Foundation (an endowment) is established and its long-term governance capacity is developed; (c) management plans are framed and endorsed for the Central Suriname Nature Reserve (CSNR) and the Sipaliwini Nature Reserve (SNR) following rapid biological assessment, social assessments, and extensive public consultation; (d) CSNR and SNR are effectively

managed using participatory methods, and management is being operationalized in other nature reserves as the SCF is further endowed; (e) ecological surveys, research, and monitoring promote adaptive management in large PAs; (f) conservation awareness and environmental education efforts are building national constituencies for biodiversity conservation; and (g) ecotourism sector is developed and managed and an environmentally compatible economic alternative in target PAs.

Venezuela: Conservation and Sustainable use of Biodiversity in the Llanos Ecoregion (World Bank) GEF: \$0.96 million; Total: \$2.43 million (*Medium-sized project*)

The biological richness and productivity of the Llanos wetlands is world renowned and it is among the 200 priority global ecoregions of the WWF Living Planet Campaign. The project seeks to contribute to the conservation of biodiversity of the ecoregion of the Llanos of Venezuela through planning comprehensive strategies and implementing demonstration projects with stakeholder participation and partnerships. Specifically the project will seek to improve the state of knowledge about the ecoregion, establish strategies for the conservation and sustainable use of the biodiversity in the ecoregion, conduct replicable pilot projects to promote conservation of biodiversity, and train decision makers to work in multi-disciplinary teams.

Expected Project Outputs after 3 years of Implementation: (a) scientific assessments, an ecoregional report, online interactive environmental information system, and GIS results; (b) socio-economic assessment; (c) action plan for the ecoregion undertaken through a participatory process; (d) successful demonstration pilot projects; and (e) strengthened financial sustainability.

Climate Change

China; Energy Conservation and GHG Emission Reduction in Chinese Township and Village Enterprises (TVE), phase 2 (UNDP) GEF: \$9.00; Total: \$19.55 million

This project would focus on Township-Village Enterprises (TVEs) which constitute a significant share of Chinese economic production. It would seek to reduce GHG emissions in China from the TVE sector by increasing the utilization of energy efficient technologies and products in the brick, cement, metal casting, and coking sectors. The project would remove key market, regulatory, technological, management and commercial barriers to the production, marketing, and utilization of energy efficient technologies and products in these industries. Project objectives would include: a) establishing incentives and monitoring systems to strengthen ongoing efforts to enforce relevant existing laws and regulations at the county level; b) providing the capacity for implementing TVE based energy conservation and product improvement investments in rural areas; c) creating access to commercial financing for eight pilot projects in a way that could be replicated

through future investments; and d) creating the mechanisms for commercialization and replication of the energy conservation investments at a national level.

Expected project outputs after four years of implementation: (a) mechanisms for barrier removal created; (b) policy barriers removed by improved enforcing of relevant existing laws and supplemental incentives and monitoring on the county-level; (c) technology and market barriers removed by facilitating the assessment, access to commercial financing, and implementation of eight selected pilot projects and identification of a pipeline of future energy conservation and product quality improvement projects; (d) financial barriers removed by providing financing to eight selected phase II projects; and (e) replication facilitated by i) institutionalizing a commercial intermediary mechanism for the financing of energy conservation and product improvement projects within the four TVE sectors on a nation-wide scale, and ii) recommending to policy makers best practices for the improvement and enforcement of relevant laws on the county level for national implementation. The direct abatement impact of this proposed project is estimated to 842 thousand tons for the period 2000-2010, with a unit abatement cost of 39.1 \$/tCe. The estimate for overall sector-wide replication upon barrier removal is 561 million tons, leading to a unit abatement cost of 0.06 \$/tCe for the GEF financing.

Lebanon: Barrier Removal of Cross-Sectoral Energy Efficiency (UNDP) GEF: \$3.40 million; Total: \$5.40 million

The goal of this project is to reduce GHG emissions in Lebanon by improving demand side energy efficiency through the creation of a multi-purpose Lebanese Centre for Energy Conservation and Planning. The Centre, which is expected to be a "soft" and flexible institutional set-up, will simultaneously undertake barrier removal activities and provide energy efficiency services to the public and private sector industries, in the process of becoming an independent, commercially viable private corporation. There will be a broad range of supporting activities including information dissemination, awareness programmes, and policy analysis and programme design.

Expected project outputs after five years of implementation: (a) 300-400 energy audits of industrial plants and buildings; (b) feasibility studies outlining necessary actions for implementation of energy audits; (c) specific financing mechanisms to create incentives and investments in energy efficiency interventions and technology; (d) an assessment of the DSM potential by end-use technology, by sector, and by energy source; (e) policy recommendations for legislative and other action; (f) targeted information materials and programmes regarding energy efficiency based on documentation of cost-effectiveness of energy conservation options for various sectors and technologies; (g) energy efficiency codes and norms for equipment; (h) human capacity to identify and capture energy savings opportunities with technical, financial, and policy measures; (i) increased market share of efficient equipment; (j) consumer and policymaker understanding and support for energy conservation; and (k) a national energy conservation plan, under the auspices of national energy planning. The overall CO₂ abatement impact of this proposed project is estimated

to 20 million tons for the period 2000-2020, leading to a unit abatement cost of 0.99 \$/tCe.

**Malawi: Barrier Removal to Malawi Renewable Energy Programme (UNDP)
GEF: \$3.42 million; Total: \$10.72 million**

The project will help to mitigate greenhouse gas emissions by addressing institutional, information, know-how, perceived risk and other investment barriers to increased use of photovoltaic energy sources by households, institutions, commercial entities and agro industries. Specifically the project will assist local stakeholders in building local capacities to promote, install and service PV applications; support relevant campaigns, help to develop and implement favorable regulatory frameworks, facilitate the establishment of viable financial mechanisms (micro lending) to cover up-front investment costs and to address risk perceptions. It will help to demonstrate viability of investments in photovoltaic energy.

Expected project outputs: Increase of off-GRID PV installations from about 5000 systems in 1998 to at least 30,000 systems by the year 2015. This will result in a total abatement of about 600,000 tonnes of carbon over the lifecycle of these systems. The following progress monitoring milestones are suggested: At least 9,000 systems will be installed by 2004 (project completion), installation of 20,000 systems is foreseen by 2010.

**Mexico: Renewable Energy for Agriculture (World Bank) GEF: \$8.70 million;
Total: \$26.20 million**

The project will help to reduce greenhouse gas emissions associated with the use of conventional farm equipment by establishing sustainable markets for renewable energy systems in Mexico's agricultural sector. It will address initial investment cost barriers, perceived financial risks, information and institutional constraints currently preventing their use. Specifically the project will support the following activities: development of a market promotion strategy, promotion campaigns, innovative vendor financing programs (demonstrations), product certification. Options to engage innovative vendor financing (leasing) programs to remove these barriers will be explored during project appraisal, as the project brief provides evidence that rural investments in renewable energy are financially viable. [The replacement of grant investment support by contingent financing modalities to back vendor programs will be explored accordingly.](#) This is to promote replication, achievement of suggested market wide impact and overall sustainability.

Expected project outputs:: Abatement of up to 1.2 million tonnes of annual carbon emissions with replication of immediate project outcomes and penetration of renewable energy systems among 1/3 of Mexico's 600,000 unelectrified farms within ten years. Important progress milestones will be the installation of 890 demonstration systems and the training of about 1,500 service technicians by project completion (2004).

Morocco: Market Development for Solar Water Heaters (UNDP) GEF: \$2.97 million; Total: \$5.37 million

The project aims to promote viable market growth for solar water heaters by removing technical, financial, awareness, and policy barriers

It is apparent that principal barriers to be addressed in achieving this medium-term potential are typical for an underdeveloped market and relate to four principal marketing elements: product, price, promotion, and policy. In particular, the proposed project activities will remove barriers related to i) improving the solar water heating quality, ii) reducing the price and improve affordability, iii) increasing awareness and iv) improving a policy context favorable for solar water heater market development.

Expected Project Outputs after 4 years of implementation: The GEF support is requested to cover the costs of activities that would catalyze penetration of this medium term market through a promotional phase, whereby 100,000 sq.m. would be installed during a four-year period. Without the proposed GEF support the penetration of the potential medium-term market will not take place. It was anticipated that the annual installation would not go beyond 5,000 square meters. Expected Carbon mitigation benefits will grow from about 350,000 tonnes of Carbon at the time of project completion to at least 1.4 million tonnes by the year 2010 through replication.

Morocco: Solar-based Thermal Plant (World Bank) GEF: \$31.7 million to \$50 million; Total: \$114.36 million

The project involves the construction and operation of an integrated solar thermal-natural gas hybrid power station of about 150 MW capacity to substitute a 130 MW combined-cycle natural gas plant that would otherwise be required. If approved this would be the second plant of this type in Operational Program Number No.7 after the *India: Solar Thermal Project*. The power plant will be built and operated by a private independent power producer selected by competitive bidding. The technology and the configuration, while expected to include the proven parabolic trough technology, will not be specified in advance of the bidding but will emerge from the bidding process.

One remaining major uncertainty in project preparation concerns the estimation of incremental costs. This uncertainty is largely due to the varying estimates of the costs of the baseline natural gas combined cycle plant whose costs are reportedly declining due to rapidly changing market conditions. Preliminary estimates of these costs during preparation have ranged between \$400/kW to \$1000/kW causing the incremental costs to vary between \$31.7 million to about \$50 million. This uncertainty in the incremental cost estimate will be removed prior to project's endorsement during the PDF-C phase which will begin once the project is approved for inclusion in the work program.

Expected outcome after five years of implementation: The plant life is expected to be 25 years after plant construction. The power plant is expected to supply 774 GWh/year net to the grid. For a 38 MW solar field, the solar share of energy produced is expected to be

13% of the total, or about 101 GWh/year. This plant will provide valuable experience regarding the cost of this technology and promote reduction in the cost of future plants of this nature.

**Philippines: CEPALCO Distributional Generation PV Power Plant - (World Bank)
GEF: \$4.03 million; Total: \$8 million**

The project involves the construction of a 1 MW distributed generation power plant operated in conjunction with a hydro plant to provide higher value firm peak-load power. If approved, this would be the first project of its type in a developing country setting, and the first grid-connected PV project in Operational Program Number 7. While the *direct* greenhouse gas reductions from this project are small, the project will demonstrate the use of this technology in the Philippines for distributed generation and catalyze cost reductions for future projects. The replication potential is very large.

Expected project outputs after two years of implementation: The project will install a 1000 kVA (peak) PV plant in the project area. The plant is expected to operate without substantial problems for 20 years after installation. Over its lifetime, the plant is expected to produce 39 million kWh of electricity.

**Poland: Zakopane Geothermal District Heating and Environment (World Bank)
GEF \$4.5 million; Total \$73.0 million**

With the primary objective of reducing greenhouse gases, the proposed project will assist the government of Poland in developing geothermal resources in the Podhale region. The project provides for: a) drilling five geothermal wells; b) installation of a 60 to 70 MW district heating plant; c) installation of natural gas fired peaking plants at Zankopane - 42 MWt and Towy Targ - 12 MWt; and d) installation of the district heating.

Expect project outputs after five years of Implementation: (a) operating district heating system to displace burning of coal, coke, or wood for space and water heating in two cities of Zankopan & Nowy Targ (expected sales to households, large loads, and district heating in Zakopane and Nowy Targ. DH are estimated to be 4,442 units and 1,242 TJ/yr by 2,005); (b) reduction of carbon dioxide by more than 2.5 million tons or carbon by more than 680,000 tons over the nominal 20 year life of the project.

**Slovak Republic: Chemsovit Cogeneration Project (World Bank) GEF: 2.20 million;
Total: \$18.40 million (STRM)**

The project will reduce greenhouse gas emissions by replacing two existing cogeneration plants in a synthetic fibre plant with a larger more efficient unit to displace grid supplied electricity. Carbon reductions result from supplying gas fired cogenerated electricity which displaces coal generation.

Expected project outcome after implementation: (a) reduction of carbon emissions by more than 820,000 tons over the 20 year life of the project; (b) installation of a 14 MW CHP plant including civil and electrical works, combustion turbine and heat exchangers; and (c) an energy management system.

Slovenia: Removing Barriers to Increased Use of Biomass as an Energy Source (UNDP) GEF: \$4.4 million; Total: \$12.34 million

The project will help the Government of Slovenia to achieve GHG mitigation targets specified in preliminary results of a GEF sponsored Enabling Activity. It is expected that the removal of technical, institutional, information, and financial barriers to increased use of biomass as an energy source will lead to expeditious growth of the market for biomass co-generation technologies. The following specific objectives will be pursued with the GEF project (a) reduction of implementation costs for biomass based district heating, b) improvement of boiler efficiency; and (c) increased use of biomass for co-generation.

Expected project outputs: An estimated abatement of 490,000 tonnes of Carbon over the next two decades through widespread application of the biomass based energy co-generation technology promoted by the project.

International Waters

Global: Removal of Barriers to the Effective Implementation of Ballast Water Control and Management Measures in Developing Countries (UNDP) GEF: \$7.61 million; Total: \$11.44 million

The long term objective of this project is to assist developing countries reduce the transfer of harmful organisms from ship ballast waters. PDF-B phase identified educational, informational, technical, institutional, financial, political, cultural, and legal barriers that need to be overcome. The project will support effective country based demonstration projects at specified ports within six developing nations (*Brazil, China, India, Iran, South Africa, Ukraine*), representative of each global development region. The objective is to address the need for effective management and coordination, stakeholder public awareness and education, barrier removal efforts, monitoring activities, identification of opportunities for self financing and the recruitment of additional donors to ensure long-term sustainability. Regional involvement will be effected through regional task forces. The project will increase the extent to which ships calling on developing country ports adhere to the International Guidelines of IMO, and will assist developing countries to define programs necessary to implement an anticipated ballast water annex to the MARPOL Convention or a new convention related to ballast water.

Expected project outputs after three years of implementation: (a) an established IMO based Project Coordination Unit ; (b) defined generic and possibly country and port

specific monitoring programs and strengthened monitoring structures; (c) removed barriers to establishment of ballast water management plans; (d) generic, and possibly country and port specific, programs to increase the rate of compliance with IMO guidelines; (e) identified opportunities for increased self financing of the project during and after the project's timeframe; and (f) a legally binding annex to MARPOL or a new convention.

Regional: China, Indonesia, Malaysia, Philippines, Thailand, Vietnam -Reversing Degradation Trends in the South China Sea (UNEP) GEF: \$18.59 million; Total: \$35.86 million *

The overall goal of the project is to foster and encourage, at a regional level, collaboration and partnership in addressing transboundary environmental problems of the South China Sea between all stakeholders and at all levels. The project also seeks to enhance the capacity of the participating governments to integrate environmental considerations into national development planning. In the medium term, the objective of the project is to facilitate an agreement on specific targeted and costed actions for the longer term to address the priority transboundary issues and meet the targets which emerged from the diagnostic study, and the framework program of actions completed during the PDF-B phase. The priorities that will be addressed are wide ranging in both context and proposed areas of action: (i) habitat conservation and loss; (ii) over-exploitation of fisheries; (iii) land based pollution; and (iv) regional co-operation. Stress is placed on co-ordination of actions by diverse organizations, agencies, NGOs, private sector, and government entities both at the national and regional levels.

Expected project outputs after seven years of implementation: (a) a targeted and costed program of actions and a recommended legal framework for improved regional co-operation for the management of the environment of the South China Sea; (b) a series of national and regional management plans for specific habitat issues; (c) 9 demonstration management activities (mangroves, coral reefs, wetlands, sea grasses) at priority sites of transboundary relevance; (d) a regional management plan for maintenance of transboundary fish stocks; and (e) pilot activities relating to alternative remedial actions to address priority pollutants and adopted water quality objective and standards.

Regional: Cuba, Jamaica - Demonstration of Innovative Approaches to the Rehabilitation of Heavily Contaminated Bays in the Wider Caribbean (UNDP/UNEP) GEF: \$9.41 million; Total: \$35.26 million

* The endorsement letter from the GEF focal point is currently pending. UNEP has received assurances from the Government of China that the endorsement letter will be sent shortly. The GEF Secretariat proposes that the project's entry into the Work Program be conditional upon the receipt of the letter of endorsement prior to the CEO endorsement of the project.

This initiative is a follow up of the Pilot Phase PRIF project *Planning and Management of Heavily Contaminated Bays and Coastal Areas in the Wider Caribbean*; the project areas were Havana Bay (Cuba), Puerto Limon (Costa Rica), Cartagena Bay (Colombia), and Kingston Harbour (Jamaica). This PRIF project resulted in the development of investment and institutional strengthening plans and in the identification of sources of financing for the implementation of remedial actions. Leveraged baseline investments in the four bays were in excess of \$250 million. As a follow-up to the PRIF and a complement of on-going baseline, the proposed GEF project will leverage national co-financing to help two of the countries to overcome a number of key barriers to the adoption of best practices that limit the contamination of their national and adjacent international waters. This would be achieved by implementing demonstration/pilot projects for reducing the input of priority transboundary contaminants, the nutrients nitrogen and phosphorus, to Havana Bay and Kingston Harbor, two major sources of contamination for the adjacent Wider Caribbean. The project will also strengthen and/or help create new institutions responsible for the rehabilitation and sustainable management of the two bays. The project supports the mandate of the Cartagena Convention (Art.7 and Art. 13) as well as the new Land-Based Sources Protocol currently in preparation. UNEP, the co-implementing agency, will be responsible for the regional coordination, and for the sharing and dissemination of nutrient pollution control strategies in the Wider Caribbean region.

Expected project outputs after five years of implementation: (a) regional coordination and dissemination mechanisms; (b) sewage treatment plant with nutrient removal and sludge utilization, designed and constructed in Havana Bay; (c) demonstration of sustainable technologies for decentralized wastewater treatment and disposal (low flush toilets, black water collection and treatment, small scale constructed wetlands - Havana Bay); (d) wastewater nutrient removal facility for the Kingston Metropolitan Area designed and constructed; and (e) strengthened institutions for waste management..

Regional: Cambodia, Laos, Thailand, Vietnam - Mekong River Basin Water Utilization Project (World Bank) GEF: US\$ 11.10 million; Total: US\$17.95 million

The project would help the four member states of the Mekong River Commission (MRC) to implement key elements of the 1995 Agreement on Cooperation for Sustainable Development of the Mekong Basin. It will assist MRC to improve and coordinate sustainable water management, including equitable water utilization and protection of the environment, aquatic life, and ecological balance in the Basin. This would be achieved through preparation of "Rules" for water utilization (in particular, minimum in-stream flows on the Mekong River), and protocols for information exchange and notification/consultation in accordance with the Mekong Agreement. The project will help MRC formulate the "Rules" by providing analytical tools (Basin Simulation Model Package and Knowledge Base), building technical capacity in the MRC and riparian states, and facilitating consultations and providing legal expertise.

Expected outcome after 7 years of implementation: (a) a functional and acceptable package of basin simulation modeling and analytical tools supported by improved

databases; (b) a set of recommended rules for water utilization (i.e.: minimum dry and wet season flow levels on the Mekong River, notification and review procedures for proposed water uses); and (c) enhanced project and basin management capacity in MRC, National Mekong Committees, and the Commission's Secretariat.

Georgia: Agricultural Development II (World Bank) GEF: US\$ 2.50 million; Total: US\$ 8.25 million

The overall objective of the project is to increase agricultural production sustainably, while reducing pollution of natural resources (nutrients discharges to water-bodies, emissions of GHG). It represents the first phase of a ten year program for the reform of on-farm agricultural and environmental practices. Under Phase I, the GEF would support the costs of measures aimed at: (i) improving storage and management of manure, and (ii) introducing the use of biogas energy among rural households. This will be achieved through technology demonstrations and removal of institutional, capacity related, marketing, and financial barriers. GEF support for Phases II and III of the program is also envisaged, with the scope to be determined following the mid term review of the project.

Expected Outcome after four years of implementation: (a) an effective system for agricultural technology development, acquisition and adaptation established; (b) production and post-harvest technologies for natural resources management developed and transferred; (c) strategy for the reform of the agricultural research complex agreed and proceeding; (d) adoption of improved sustainable agricultural practices to reduce environment pollution.

Ozone Depletion

Russian Federation: Phaseout of Ozone Depleting Substances (3rd Tranche) (World Bank) GEF: \$31.30; Total: \$158.30

The Russian Federation GEF ODS Consumption Phaseout Project is a framework project, involving grant funding up to US\$60 million, to be disbursed for eligible phase-out investments and supporting technical assistance in three tranches. It was originally approved in 1995 and the first two tranches, involving grant funding of US\$28.7 million for consumption phase-out investments in the aerosol and refrigeration sectors, and institutional strengthening are currently under implementation. To date, the first two tranches have eliminated more than 2,500 MT of annual consumption . The total annual phase-out will reach 10,813 MT ODP by early 2000. The third tranche, amounting to US\$31.3 m, (1) expands the project's scope to cover all consumption sectors encompassing thirteen consumption phase-out investment sub-projects , (2) provides supplementary support for the Special Initiative for ODS Production Closure in the Russian Federation, (3) supports residual ODS phase-out beyond 2000 through a Small Grant program , establishes a Halon Banking program (4) provides technical assistance to

assure the full implementation of Russia's country program, including comprehensive monitoring and evaluation to verify phase-out progress and Montreal Protocol compliance. The project supports the closure of one of the world's largest ODS production capacities at a remarkably high cost effectiveness(US\$0.20/kg ODP), while allowing the country to effectively and rapidly deal with its residual phase-out management requirements.

Expected Project Outcomes after five years of implementation: Implementation of the Russia's ODS phase out country program, which will phase out more than 35.000 tonnes of annual ODS consumption (1994 level). Full compliance of Russia with Montreal Protocol Control Measures by the end of the year 2000.

Significant structural effects on remaining global ODS markets are expected in addition to direct impact of GEF sponsored activities. Increasingly narrow formal and informal ODS markets and associated price increases are likely to make non-ODS alternatives fully competitive for most applications, so that economic incentives for continued ODS consumption may disappear over time.